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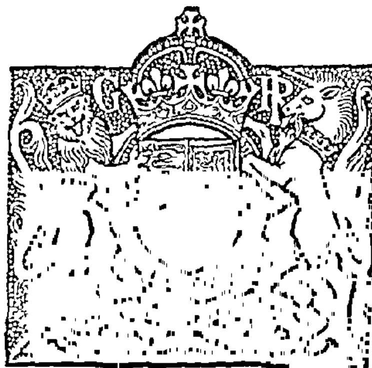
ARCHÆOLOGICAL SURVEY OF INDIA

1926-27

EDITED BY

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INTRODUCTION.

In the introduction to the first Annual Report that, as head of the then newly constituted Archæological Department, I published in 1902, I endeavoured to explain what the aim of my Department would be in regard to the rival claims of conservation, exploration and research, and epigraphy. Each of these subjects, I said, was to be regarded as co-equal with the others; each to have a recognised place in the official programme and as full a share as possible of any funds that might be available. This was the counsel of perfection at which we were then aiming and which we have kept steadily in view for the last 25 years. It must be confessed, however, that up to the present it has been little more than a counsel of perfection; for in practice the sums allotted to archæology have been so pitifully small and the claims of conservation so many and so insistent, that it has not been possible to devote more than ten per cent. of our funds to the exploration of buried remains. As a fact, the amount spent annually under this head during the last quarter of a century has never reached as much as a lakh and has generally been about one fifth of that sum. Such a meagre provision divided among all the Provinces of India and Burma has, needless to say, been woefully inadequate. At the same time it has been out of the question to augment it at the expense of the standing monuments of the country, whose safety is admittedly of paramount importance, and there has been nothing for it, therefore, but to wait patiently in the hope that more liberal provision would one day be obtainable. Thanks, in the main, to the widespread interest awakened by the recent discoveries at Mohenjo-daro and Harappa, this hope has at last been fulfilled, and, as a provisional measure, a sum of two and a half lakhs per annum has now been allotted for exploration; and, in order to provide the staff required for the new campaign, sanction has also been accorded to the creation of several extra posts (to be paid for out of the new allotment), *viz.*, for three Assistant Superintendents and one Deputy Director General for Exploration. The immediate results of this more liberal policy are set forth in the pages of this report* and were graphically illustrated at an exhibition of our last season's finds, or rather of representative specimens of the minor and portable objects among them, which the Department held in Simla in September, 1927. Outstanding among these discoveries from an archæological point of view were those made at Mohenjo-daro, Harappa, Nal and various other sites of the Chalcolithic Age in Northern Baluchistan, all of which help to throw further light on the newly revealed civilization of the Indus as well as on the affinities existing between it and the already known cultures of the same age in Sistan, Transcaspia, Persia and Mesopotamia. Besides the provisional accounts of these explorations furnished by the several officers responsible for them, namely by Sir Aurel Stein, Mr. H. Hargreaves, Rai Bahadur Daya Ram Sahni, Mr. E.

* *Vide* pp. 51—183 infra.

Mackay and Mr. M. S. Vats, I have thought it well to include in this report a summary of the general conclusions at which we have arrived regarding the character and extent of the Indus civilization, so as to give the reader a more comprehensive, albeit a very sketchy, idea of the problems in front of us, since some time must necessarily elapse before the special volumes relating to these excavations, which are now in course of preparation, can be issued to the public.

Besides enabling us to embark on a wider and more systematic campaign among these pre-historic remains in the west, the increased grant has also made it possible to extend the scope of our work among the later historic sites throughout India and Burma and to unearth a wealth of archæological treasures, which have more than amply repaid Government for its expenditure. From the excavations at Taxila has come a unique hoard of silver plate and gold and silver jewellery of the Scytho-Parthian age, the value of which is greatly enhanced by the fact that all the pieces were found together in one spot and that a number of them bear short records in Kharoshthi giving the name of their owner and the value of the pieces. In Bihar, the mediaeval Buddhist monasteries of Nalanda have yielded a singularly beautiful collection of bronze and copper images as well as many other instructive objects, and in the same neighbourhood a number of new and interesting facts have been revealed concerning the construction of the wooden fortifications of Pataliputra, the capital of the Mauryan empire. At Paharpur in Bengal, the colossal temple of the Early Mediæval period, which has now been completely exposed, proves to be not only the oldest and largest of the monuments in that part of India but to be decorated with a surprisingly lavish array of sculptures, partly Buddhist and partly Brahmanical in character, which, like the recent finds made at Nalanda, bear witness to the influence which the latter religion was exerting on Buddhism during the Mediæval Ages. In the Madras Presidency, two important groups of Buddhist buildings of the 2nd-3rd Century A. D. have been partly unearthed at Gummadidurru and Nagarjunikonda and among other things found to comprise a fine series of reliefs belonging to the Amaravati School—the most attractive of all the Schools of early Indian sculpture—as well as several records of exceptional historic interest. Lastly, at Old Prome (Srikshetra) in Burma, the untouched relic chamber of a Buddhist stupa of the 6th or 7th century A.D. proved a veritable wonderhouse of votive offerings, among the medley of objects found in it being several stupas of silver or silver gilt (one bearing inscriptions in mixed Pyu and Pali), more than three score images of gold and silver, a manuscript of gold leaves engraved with extracts from the Pali scriptures, finger rings, ear ornaments, miniature boats, terracotta reliefs and coins of various denominations, besides a variety of beads and precious or semi-precious stones.

The astonishingly rich harvest of antiquities thus reclaimed from the ground during the past year gives prominence to a question that is likely to be of paramount importance to the future of archæological exploration in India. I refer to the question of whether non-official agencies, Indian or foreign, are

to be allowed or not to co-operate with Government in the task of excavation, and if so, whether Government is to take power by legislation to control their operations. At present the position is this:—In the Ancient Monuments' Preservation Act there is a Section (20) which empowers Local Governments to restrict or regulate excavations, but only for the purpose of protecting or preserving an ancient monument. In other words, it enables them to control operations, such as those of mining or quarrying, which are likely to be a menace to the safety of a standing monument, but it does not permit them to interfere with excavations undertaken for purposes of archæological research. Provided, therefore, that the safety of a standing monument is not imperilled, the owner of an ancient site may excavate it and dispose of his finds in whatever way he pleases, the only restrictions on him being those imposed by the provisions of the Treasure Trove Act of 1878. In order to remedy this defect in the Ancient Monuments' Act and to enable Government to exercise adequate supervision over the operations of private excavators, I have recently proposed the adoption of two amendments to this Act: the first designed to extend the definition of "ancient monuments" so as to include sites where remains of antiquities are buried or are believed to be buried; and the second to empower the Governor General in Council to make rules for the control of archæological excavations as well as for the disposal of the finds. The rules which I have recommended for adoption in India, are generally similar to those that have been tried for many years past in Egypt, Palestine and Mesopotamia and found to work eminently well in those countries. They prescribe the conditions on which permits to dig will be granted and the manner in which antiquities discovered by the concessionaires will be disposed of. The rules relating to the latter subject are of special interest. Their purpose is to ensure that such objects as are of national importance, shall be reserved for the State: and that the remainder shall be equally divided between the finder and the State. By "objects of national importance" are meant those objects which, in view of their unique or rare character, or in virtue of their historic, religious or other associations, may rightly be regarded as national heir-looms. Among such objects would be classed, for example, the edict pillars of Asoka, historic statues, cult images or sculptures pertaining to standing monuments, which there are obviously strong reasons for retaining in the country of their origin. On the other hand, they would not include such objects as arms, utensils, implements or personal ornaments, unless these happened to be invested with a unique value for India.

Now, it is by no means unlikely that the rules proposed above may give rise to some controversy; for it is impossible to blink the fact that there is a considerable weight of opinion in this country which is opposed to the granting of concessions in any shape or form to outside agencies. Those who hold this opinion contend that whatever antiquities are unearthed in India belong by an indefeasible right to the country, and ought to be retained in the national Museums; and that, if private individuals or societies desire to excavate, they must do so on condition that they receive no share whatever of the spoils.

Were the sites awaiting excavation in this country less numerous than they are, or were there any hope at all of India herself being able to undertake and complete the task of excavating them, this eminently patriotic view would be logical enough and would have much to commend it. As things are, however, there is not the remotest possibility of India being able to achieve this single-handed, and, unless extraneous help is enlisted, we shall merely lose a valuable means of developing our national collections of antiquities and of advancing the cause of historical and antiquarian research.

Few people probably realise the limitless opportunities that this country offers for exploration. It is no exaggeration to say that in no other part of the globe are there to be found such crowds of ancient sites compressed into an area of equal extent. Turn, where one will, to the jungles or the hills, to the desert or the sown, their number is legion. Let us take Baluchistan as an example. In our efforts to follow up the Indus culture westward we have recently been carrying out a rapid and necessarily superficial survey of a number of hitherto unexplored sites in the north and south of that country. As a result of these reconnaissances, which were conducted with characteristic energy by Sir Aurel Stein, we have added more than 80 sites to our already existing list, the majority of which are referable to the Chalcolithic Age. Some of these sites are relatively small, and their excavation may take no more than a few months; others are extensive burial grounds or cover the remains of large towns, and, like Mohenjo-daro and Harappa, each of them will take many decades to explore. At present, the Archæological Department has neither money nor staff to spare for this work in Baluchistan, but even assuming that we could equip an expedition for this particular area at a cost of, say, half a lakh a year, there is enough work there to last us for the next thousand years. At first sight, this may perhaps seem an extravagant estimate; but consider, for a moment, what the excavation of these ancient sites implies. Many of them consist of the ruins of city on city, often five or six deep, and descending 40 or 50 feet below the surface of the mound. Scientific excavation must necessarily be done methodically and thoroughly, stratum by stratum; and on such sites, every couple of acres that are cleared to their full depth involve, in the difficult conditions as to labour and climate prevailing in Baluchistan, a whole season's work. Thus, if a site is no more than 200 acres in extent, it is likely to take a century to explore.

What is true of Baluchistan, is equally true of the rest of the Indian Empire. In every Province there are hundreds of buried sites—I do not suppose that a quarter of them are even known to us yet—where one has only to delve in order to discover remains of antiquarian value. Some are of the prehistoric, others of the historic period, some are Hindu, others Buddhist or Jain and others Muslim. But each and all of them may yield materials of the greatest interest; and taken collectively they constitute a mine of almost inexhaustible wealth for archæology. So far, however, as the Archæological Department is concerned, it is unlikely that it will be in a position to excavate more than a mere fraction of the whole in the course of the next hundred years,

and meanwhile there are many of these sites that must inevitably be destroyed by increasing irrigation and other causes.

Now, I do not suggest that it would be worth-while for the Archæological Department to attempt the exhaustive excavation of all these ancient sites. In my view, it certainly would not. For, even if the large sums of money required for this task could be found, the expenditure would only be justified up to a certain point. I do maintain, however, that with such a limitless field before us, it is wholly to the advantage of India to encourage outside agencies, whether Indian or foreign, to participate in the task of exploration, while at the same time taking every precaution to safeguard the interests of science. And lest it be supposed that the offer of a share of the finds to a concessionaire is superfluous, that, in other words, private excavators may be expected to come forward without any such inducement, it may be stated that experience in other countries has shown that not only is some such inducement indispensable, but that, unless the rule relating to it is administered in a liberal spirit, private excavators will quickly withdraw their help. The reason for this is that the majority of such excavators are dependent for their funds on public subscriptions, and, unless there is a tangible return to show to their subscribers, they cannot hope to go on securing the requisite financial support. Should no offer, therefore, be made of a share in the spoils, it may confidently be predicted that the promises of private co-operation in this work which we have already received, will fail to materialize.

In Mesopotamia, Egypt and in the Near East generally the benefits of non-official help in the task of excavation have been strikingly demonstrated in the rich collections that have accrued through its means to the State Museums and in the powerful stimulus that it has imparted to oriental studies—partly due to the presence of numerous Western savants collaborating together on the spot, partly to the world-wide interest in the subject which the collections of antiquities brought together in the Museums of Europe and America have been mainly responsible for creating. Were it not for these collections, the remarkable progress made in Egyptian, Babylonian, Assyrian and Palestinian studies would have been impossible. My hope is that, with the adoption of a like system in regard to private excavations in India, the same good results may follow.

An additional argument in favour of permitting outside museums to acquire in this manner representative collections of Indian antiquities, is that the trade in these antiquities, which for some time past has been steadily increasing, is likely thereby to be substantially reduced. For, so long as these museums are prohibited from procuring antiquities by authorised excavation, so long will they continue to purchase them from dealers, and so long will clandestine digging be resorted to by the latter, to the inevitable detriment of the sites excavated and the irretrievable loss of scientific data.

JOHN MARSHALL.

SECTION I.—CONSERVATION.

UNITED PROVINCES: MUHAMMADAN AND BRITISH MONUMENTS.

By Khan Sahib Maulvi Zafar Hasan.

IN pursuance of the scheme introduced in the year 1925 and discussed in last year's report, the conservation and maintenance of central monuments in the United Provinces of Agra and Oudh was carried out departmentally with the exception of the installation of an engine and pumping plant at SIKANDRA—a work which demanded special mechanical knowledge. The estimate for this work originally amounted to Rs. 20,230 but was subsequently raised to Rs. 25,393 including the agency charges, which were increased from 19 to 24 p. c. The revised estimate was sanctioned by the Director General, who agreed to pay the balance of Rs. 5,165, but in January 1927 the Public Works Department expressed their inability to execute the work before the end of the financial year, and suggested the withdrawal of the allotment. At the instance of the Indian Stores Department, who were consulted in the matter, it has now been decided to place the contract in the hands of Messrs. Worthington Simpson and Co. of Calcutta, whose tender for the supply and erection of the pumping plant, with an engine of 32 B. H. P., amounted to Rs. 15,391. Taking into account the freight, and other petty expenses, the total cost of the work is not expected to be more than Rs. 16,000 and it is hoped that it will be completed by October, 1927. On their demand a sum of Rs. 1,400 had to be paid to the Public Works Department for framing an estimate and calling for tenders, and this was the only expenditure incurred on the work during the year under notice.

On conservation works generally in the United Provinces the total amount expended during the year was Rs. 1,47,673, of which a sum of Rs. 51,184 was spent on special repairs, Rs. 49,205 on annual repairs and maintenance, and the balance of Rs. 47,284 on the upkeep of archæological gardens. Consequent on the greater part of the grant for special repairs being set apart for the installation of an engine and pumping plant at Sikandra, only a few works of a special nature could be undertaken. Most important of them was the conservation of ITIMADU-D-DAULA'S TOMB at Agra. This undertaking, which is to cost in all Rs. 46,616, has been in progress since the year 1925-26. During the year under notice a sum of Rs. 9,000 was originally allotted for it. Subse-

quently, however, supplementary grants of Rs. 10,000 and Rs. 5,000 were made in the month of February 1927, and thanks to the energetic and efficient supervision of Babu Murari Lal Arora, work to the full amount of the allotment of Rs. 24,000 was completed before the end of the financial year, the chief items executed being the paving of the floor of the south and the river side pavilions and the restoration of the causeways and water channels on the north, south and west. In the course of these operations a tank was brought to light in front of the river side pavilion (Pl. I, *c.*) which appears to have served as a reservoir to feed the tanks in the ground storey of the river side pavilion.

Minor works carried out at the TOMB OF ITIMADU-D-DAULA under the head of annual repairs were the restoration of the roof of the *gausala*, which fell down during the rains, and the provision of teak wood doors of Mughal design for the compartments on either side of the entrance gate. The fractured marble jamb of the west arch of the shrine was also repaired, and the missing *chhajja* slabs of the south-east *chhatri* were replaced by new ones.

At the AGRA FORT the paving of the courtyard of the AKBARI MAHAL was continued and an area 124′ by 22′ was finished during the year under notice. Similarly the *chabutra*, in front of the Hindu temple, was paved with stone flags. The missing *chhajja* stones of the *chhatris* at the south-east and south-west corners of the MOTI MASJID were replaced by new ones, while the decayed facing stones and *dasas* on the south of the same building and in the northern court of the JAHANGIRI MAHAL were renewed. Extensive underpinning and pointing were done to the wall enclosing the DIWAN-I-AM compound on the west, and the site of the SALIMGARH was cleared of débris and made tidy.

At the TAJ MAHAL, the chief measures of conservation were the replacement of missing *chhajjas* and decayed facing stones, *jalis* and brackets at the *chhatris* to the north of the JAWAB and the Mosque, the entrance gate and the *dalans* of the forecourt. Repairs were also carried out to the attached KHAWASPURA building now used as a nursery, where some five decayed stone pillars were replaced by new ones. The work entailed a heavy expenditure on scaffolding for propping up the superstructure.

At the FATHPURI MOSQUE at Agra, the northern compartment was paved with stone slabs in the form of *musallas* similar to the original ones. The dilapidated arch of the PHULEL KATRA gateway was rebuilt, while the roof of the DAKHNI GATE was made watertight by relaying it with lime concrete. At the RAUZA DIWANJI BEGAM MOSQUE, the undermined walls were underpinned and the modern *kachcha* huts standing near it were removed and the site made tidy. At the TOMB OF FIROZ KHAN, the missing *chhajja* slabs round the main dome were replaced by new ones, while the holes in the compound wall were filled up with *lakhauri* bricks in lime.

At the RAM BAGH in the same locality a few stone *jali* panels were supplied to the windows in the southern *baradari* and the broken shell plaster on the pillars was restored. The portion of the railing damaged by picnic parties

was repaired, and new wooden doors were fixed to the northern entrance of the *gausala*. Repairs were also effected to the neighbouring buildings, *viz.*, the CHINI-KA-RAUZA, KALA GUMBAD and ZOHRA BAGH KIOSK on the river side, where a considerable amount of pointing and underpinning had to be done. At HUMAYUN'S MOSQUE at Kachhpura the floor of the central compartment was relaid with lime concrete. This building is in a dilapidated state, and proposals for special repairs to it are now under consideration.

At the ROMAN CATHOLIC CEMETERY at Agra, a portion of the compound wall, which was out of plumb, was dismantled and rebuilt. At the same time some of the graves were replastered and their fallen head-stones reset. The old gates of the city, *viz.*, the DELHI GATE, the PUL CHANGA MODI and the KANS GATE also received attention, and necessary repairs such as filling up holes and open joints in the walls, making good broken plaster, etc., were carried out to them. At the DHAKRI-KA-MAHAL stone steps were provided to give access to the building.

The chief work executed at SIKANDRA was the consolidation and levelling of the forecourt of the tomb of the Emperor Akbar. A space in front of the main entrance had been metalled last year in connection with the project of laying out this area, but it proved too small for the parking of vehicles, which assemble there in great numbers during the cold weather rush of visitors. Consequently a supplementary estimate was framed for the extension of the metalled space and this estimate also included the removal of the unsightly mounds of earth inside the walled enclosure of the tomb. Owing to a reduction in rates and judicious supervision, the work was completed at a cost of Rs. 4,571 against an estimate of Rs. 5,609 and the saving of Rs. 1,038 was surrendered.

A start was also made with the task of laying a stone floor in the arcades surrounding the main shrine of Akbar's tomb. An estimate for the project amounting to Rs. 19,500 had been prepared and sanctioned in the previous year, but for want of funds no provision for it could be made in the conservation budget. Towards the end of the year, however, a sum of Rs. 3,000 became available, and was utilised in purchasing stone to be made use of next year. Another useful work undertaken at Akbar's tomb was the repair of the southern end of the ruined causeway on the north, where the dislodged paving stones were reset, and the flight of steps, cascade and tank on the east side were rebuilt. At the entrance gateway of the tomb the two missing *kanguras* were reconstructed, and a pair of teak wood doors of Mughal pattern was fixed to one of the doorways on the ground floor.

At MARIAM'S TOMB five decayed brackets together with the *chhajja* slabs supported by them were replaced by new ones, while at the KANCH MAHAL the floor of the compartment at the south-east corner was relaid with lime concrete. Other buildings, which received attention in this neighbourhood, were the GURU-KA-TAL, ITBARI KHAN'S TOMB AND MOSQUE, and the TOMB OF SADIQ KHAN and SALABAT KHAN, where necessary measures were undertaken to preserve and keep them neat and tidy.

The works carried out at FATHPUR SIKRI were again in the nature of annual repairs, the most important of them being the rebuilding of a section of the city wall which suddenly fell down near the AGRA GATE (Pl. I, *a* and *b*). Improvements were also effected to the RANG MAHAL, the reputed birth-place of the Emperor Jahangir, by relaying its courtyard with stone slabs and erecting a retaining wall against the ruined houses to the east of the approach which has lately been constructed. Similarly, the area adjoining the BULAND DARWAZA to the west was tidied up by resetting the old pavement slabs at the *jharna* and pitching the sloping plots of *kachcha* ground with rubble stones to prevent the growth of jungle. A start was made with the construction of a paved pathway to the SAMOSA MAHAL which lies isolated to the west of the palace precincts. During the year under review a length of some 250 feet was completed, and the rest will be done next year. Patch repairs were also effected to the terraced floor of the courtyard of the CAMEL STABLE, and a pair of teak wood doors of Mughal design was provided for the so-called kitchen near MARIAM'S HOUSE. At JODH BAI'S PALACE the roof of certain compartments to the south was relaid with lime concrete, and their back wall replastered, while a passage to the *hammam* in the same block was paved with stone slabs. At BIRBAL'S STABLE a decayed stone pillar with its capital and brackets was dismantled and replaced by a new one. The work of renewing the decayed pillars belonging to this building has been in progress for several years, and there now remain only a few more to be dealt with. Steps were also taken to remetal the roads inside the archæological area at Fathpur Sikri, and stone ballast was collected, but on account of scarcity of water on the ridge, the consolidation work had to be postponed until the rains next year. At RASULPUR, some two miles from Fathpur Sikri, the floor of the TOMB OF SHAIKH IBRAHIM was relaid with stone slabs. A pair of wooden doors of Mughal pattern had been fixed to this building in the previous year, and the recent paving of its floor has greatly improved its appearance.

At the JAGNER FORT the clearance of earth and débris, continued from the preceding year, was brought to completion and the buildings contained therein were made tidy. The earth and rubbish were thrown down the hill, while the serviceable stones were stacked for use in future repairs within the Fort. The clearance operations in the forecourt before the main entrance gate to the north brought to light a series of underground cells, locally called a *bhaksi* and believed to have been used as dungeons. (Pl. I, *d*.)

A staircase opens at the south-west corner of the dungeon, but it is filled up with débris, and it is not yet possible to say where it leads to. It is proposed to clear this staircase next year and undertake measures for the conservation of the dungeon.

Necessary repairs were carried out to the KOS MINARS in the Agra and Muttra districts; namely, to four on the Agra-Fathpur Sikri road, and fourteen on the Agra-Delhi road. These *minars* which take the form of conical pillars varying in height from 22 to 33 feet, were set up by the Mughals as milestones along the old roads. The distance between them however is not uniform;

but varies from 2 miles 3 furlongs to 2 miles 5 furlongs. There is a reference to these *minars* in the following passage in the Emperor Jahangir's diary:—

پیش ازین حسب الحکم از دارالخلافه آگره تا دریاے اٹک دو طرفه درخت نشانید خیابان ترتیب
داده اند و همچنین از آگره تا بنگاله و در نیولا حکم کردم که از آگره تا لاهور بر سر هر کروه میلی بسازند که
علامت کروه باشد و بفاصله سه کروه چاه آبی تا مترددین آسوده و مرفه‌الحال آمد و رفت نمایند و از
تشنگی و تابش آفتاب محنت و صعوبت نکشند (۱)

Translation.

"Before this, according to order, trees were planted on both sides (of the road) from the capital of Agra to the river Attock, and avenues arranged, and similarly from Agra to Bengal. Now I ordered that from Agra to Lahore pillars should be erected at every *kuroh* to mark (the distance), and wells should be dug all along at distances of 3 *kurohs*, so that the wayfarers might make their journeys conveniently and comfortably without bearing the trouble of thirst and heat of the sun."

At SHAH PIR'S TOMB at MEERUT some bad fractures in the red sandstone facing of the northern wall were cut out and repaired by the insertion of rectangular face stones. A missing carved stone jamb in the arched recess at the north-west corner of the same building was repaired by a new one, and a broken brick wall of the graveyard to the south was rebuilt. At ABU MUHAMMAD'S TOMB a decayed bracket at the southern entrance was renewed, while open joints in the plinth towards the east were treated with recessed lime pointing.

At TAPPAL, in the Aligarh district, the gateway to the fort was found to be in a very precarious condition, the roof of the compartments of the ground storey having entirely collapsed, while the main upper roof had most of its scantlings cracked and broken. An estimate for rebuilding the upper roof and removing the lower one was framed in the year 1924, but for want of funds the work could not be undertaken till the year under review, when it was accomplished at a cost of Rs. 901 against an estimate of Rs. 972. The gateway is an insignificant structure which once constituted the entrance to a mud fortress, now in ruins. It is related that the fortress belonged to the Begam Samru, to whom the *Pargana* of Tappal was assigned about the end of the 18th century. This remarkable woman played an important part in the history of Delhi during the later Mughal rule. She was the daughter of a Muhammadan of the Meerut district and her real name was Zebu-n-Nisa. At the early age of six she lost her father and on account of ill-treatment at the hands of her step-brother had to leave her father's house with her mother. In 1767 she attracted the attention of a European adventurer, Walter Reinhardt, to whom she was married. After the death of her husband in 1778 she succeeded to his *jagir* at Sardhana, which she managed admirably and continued to retain in her possession until her death in the year 1836. She

(1) *Tuzuk-i-Jahangiri*, Persian text, printed at Aligarh in 1864, p. 277.

embraced the Roman Catholic faith and in her zeal for her new religion built a Roman Catholic Church at Sardhana, where she was buried.

Conservation work at ALIGARH comprised the annual repairs to the Fort, namely, the clearance of drains, restoration of the wooden gate and relaying with lime concrete the floor of one of the magazines. The cost of the work was met out of the annual contribution made by the Military Department for the maintenance of the Fort.

The chief undertaking at JAUNPUR was the acquisition of shops and kiosks on the GOMTI BRIDGE. This bridge is the best specimen that exists of an old Mughal bridge in India. It is divided into two sections by an island in mid river, the northern portion consisting of ten arches and the southern of five. A metalled road passes over it flanked by stone parapets with kiosks surmounting the piers on either side. A striking feature on the island is a stone lion which occupies a masonry platform surrounded by a series of shops on the north, south and east. On the west side of the road, opposite the lion, is a mosque which is still used for worship. According to inscriptions on the bridge, it was constructed by Munim Khan, Khan-i-Khanan, under the supervision of Shaikh Nizamu-d-Din, during the reign of the Emperor Akbar.

In the year 1871 the kiosks and shops were seriously damaged by a flood, and as the Government was not disposed to repair them, they were transferred to the Municipal Board at Jaunpur and to certain private individuals who were to repair and realize rents from them. This arrangement, though successful in saving the monuments, was not satisfactory. The use of the kiosks as shops, with their unsightly shades and dirty hangings, detracted much from the picturesqueness of the bridge, and as no improvements were possible so long as they were in private possession, it was decided to acquire them. Their value in 1924 was estimated by the Public Works Department at Rs. 23,430 but for want of requisite funds and also for the reason that the Municipal Board, Jaunpur, objected to the valuation, it was not then possible to acquire them. During the year under review, however, a sum of Rs. 1,700 was allotted for the purchase of 5 kiosks owned by private individuals with the idea of purchasing these first and acquiring the other kiosks and shops as funds permitted. Thanks, however, to the efforts of Khan Bahadur Shaikh Maqbul Husain, C.I.E., the Collector of Jaunpur, the Municipal Board agreed to accept the compensation proposed by the Public Works Department, subject to the condition that the price of all the shops and kiosks belonging to them should be paid in a lump sum. This condition was accepted by the Director General of Archæology who forthwith allotted Rs. 10,000 and agreed to pay the balance early in the next year.

At the JHANJRI MOSQUE, which stands in the fields of corn at the outskirts of the town, the ruined courtyard was cleared of earth and débris, and a wire fencing erected about the building to demarcate its boundaries and prevent the neighbouring villagers from using the courtyard for improper purposes. At the same time the old building which adjoins the outer gateway

of the fort was provided with doors in order to utilize it for the office of the Sub-Overseer stationed at Jaunpur. At the TOMB OF SHAH FIROZ a broken pillar of the wire fencing was rebuilt, and the holes in the walls underpinned with *lakhauri* bricks, while at the ATALA MOSQUE and the JAMI MASJID the roofs were made watertight by filling up the cracks with cement mortar.

Certain special repairs were also carried out last year at DAULAT'S TOMB at MEHNAGAR, but the estimate for them had been framed long before and omitted many items which will have to be taken up later. During the year under review a flight of steps giving access to the monument was rebuilt, and patches on the terrace where water could percolate through, were relaid with lime concrete. The basement chambers also are still in need of attention, and it is proposed to repair them gradually out of the annual repair grant. At IFTIKHAR KHAN'S TOMB at CHUNAR the ominous crack which appeared some time ago at the south-west corner of its entrance gate, was filled up, and a few missing *chhajja* slabs of the balcony were replaced by new ones. At BENARES a portion of the floor of AURANGZEB'S MOSQUE, also known as DHARARA MASJID, was relaid with stone pavement, and the finial of its southern dome set right. The repairs to the TOMB OF LAL KHAN in the same locality were also taken in hand. It was cleared and made tidy and a stone *jali* screen was fixed to one of its openings. A few other openings closed with *kachcha* infillings require the same treatment, which is to be undertaken next year. At ALLAHABAD the roof of the TOMBS OF KHUSRO and his mother were made watertight, and *sal* wood doors of Mughal pattern were fixed to the upper storey of the southern gateway to the KHUSRO BAGH, to make it suitable for the office of the Conservation Assistant.

At LUCKNOW a gang of four *bankatis* was successfully employed to visit the archæological buildings in rotation and keep them neat and tidy. At the NADAN MAHAL the ruined compound wall to the east was rebuilt with *lakhauri* bricks to keep out cattle, and the two decayed stone brackets at the neighbouring building, known as CHAHAR KHAMBA, were replaced with new ones. At the Residency two pairs of wooden gates, of a suitable design, were provided for the entrance to the compound in order to prevent the ingress of stray cattle, and the walls of the ruined buildings at the same spot were treated with lime pointing. Repairs were also executed to the roofs of the ALAM BAGH HOUSE and the SIKANDAR BAGH BUILDINGS, where the decayed *sal* wood scantlings were renewed and the broken patches above were relaid with lime concrete and made watertight. In the central hall of the Alam Bagh house two wooden beams were found cracked, but as their replacement would have involved a considerable expense they were strutted with tie rods.

The conservation of the TOMB OF NAWAB DILER KHAN at SHAHABAD started in the previous year, was completed, the chief item executed during the year under notice being the dismantling and rebuilding of the shattered masonry of the western face of the building. At KALPI, repairs were continued to the CHAURASI GUMBAD, where the cracks in the fragmentary central

dome and in the roof and walls of the surrounding compartments were filled up, and a drain was constructed to carry off rain water from the compound.

Among the many other monuments to which petty repairs, such as jungle clearance, filling up cracks and open joints, etc., were executed, may be mentioned the following:—

(a) The TOMB OF RASHID KHAN at MAU RASHIDABAD in the district of Farrukhabad.
(b) The GATEWAYS OF AJITMAL and EKDIL SARAIS in the district of Etawah.
(c) The TOMBS AT MAJHERA in the district of Muzaffarnagar.
(d) BAOLI or BARA KUAN at RAI BARELI.

Fifty protection NOTICE BOARDS of the standard design were purchased, and 41 of these were fixed to monuments at 15 different places. The remaining 9 will be put up next year. It is proposed to provide these notice boards gradually at all the monuments on the protection list, warning the public against doing any damage to them.

There are 12 ARCHÆOLOGICAL GARDENS in the United Provinces, 8 at Agra covering an area of 167 acres, 3 at Lucknow with an area of 58 acres, and 1 at Allahabad with an area of 4 acres.

At Agra the TAJ GARDEN, which is the most important of its kind in the Province, was maintained at a very high level, attention being paid not only to the successive displays of annual flowers but to the systematic renewal of decorative plants, the relaying of spent lawns, and replanting of the cypresses which constitute such a striking feature in the garden. The KHAN-I-ALAM BAGH continued its useful function of providing the stock necessary for the maintenance of all the Archæological gardens at Agra. The lawns at the FORT GARDENS also received attention during the year and were extended by taking in the area to the south of the Moti Masjid. This area it is proposed to connect up with the water distribution service. A defective engine working the pumping plant at ITIMADU-D-DAULA'S TOMB was replaced by one transferred from the Taj electric plant, and a plentiful supply of water again ensured. At the RAM BAGH the progress recorded in the previous year was maintained, and the inter-planting was further developed with a view to increasing its income. Attention was also given to the propagation of jasminum for intensive inter-planting as well as to the systematic replacement of decayed mulberry trees. The hedges surrounding the small enclosure at CHINI KA-RAUZA were improved, and the lawns periodically top-dressed. At the ROMAN CATHOLIC CEMETERY, the belt of casuarina was not proving as successful as could be wished, but on the whole the garden fared very satisfactorily. The forecourt of AKBAR'S TOMB at SIKANDRA was laid out with great advantage to the setting of this majestic gateway. Owing to the delay in the installation of the pumping plant the scheme here suffered a setback, but a temporary alternative water supply is being devised, which will tide over the difficulty till the permanent plant is in operation. Inside the tomb enclosure the newly

planted ornamental trees and shrubberies are doing well, and the extension of the latter on both sides of the eastern causeway will shortly be taken in hand.

At LUCKNOW, the RESIDENCY GROUNDS continue to be maintained as efficiently as is possible from the precarious water supply available. The ornamental beds, planted last year, proved a great success and the lawns fared well. The question of improving the water supply by boring the present well and installing an electric pumping plant is under consideration, and the work will be undertaken as soon as definite proposals have been made by the Deputy Director of Gardens and funds are available. The enclosure containing the NADAN MAHAL and IBRAHIM CHISHTI'S TOMB is gradually assuming the restful appearance that is so attractive in grounds such as these. The lawns were well maintained, and, during the coming rains it is proposed to plant additional vegetation to screen the enclosure walls. The Dilkusha ground was added this year to the Archæological gardens at Lucknow, and its lawns, hedges and shrubberies were properly developed.

The Archæological garden at ALLAHABAD comprises the precincts of the ancient tombs in the KHUSRU BAGH. This area it is proposed to demarcate from the rest of the garden. The scheme for its layout has been sanctioned and will be undertaken next year.

DELHI: MUHAMMADAN AND BRITISH MONUMENTS.

The total expenditure incurred on the conservation and maintenance of Muhammadan and British Monuments in the Delhi Province amounted to Rs. 1,27,441, out of which Rs. 56,482 were spent on special repairs, Rs. 19,980 on annual repairs and Rs. 50,979 on the maintenance of Archæological gardens. The programme of conservation at Delhi was a long and varied one. Besides the annual repairs, which included many works of a structural nature, ten estimates for special repairs were taken in hand. The conservation of KHAN-I-KHANAN'S TOMB, which had been started in the previous year, was completed. As stated in last year's report, the building had been despoiled of its stone facing in the later Mughal period, the parts that had suffered most being the dome and lower parts of the walls. This facing it was not proposed to restore, but the existing stones on the walls were made secure, and where the facing had gone, the inner core was made good with rubble masonry, bonded to the core and set back 2″ from the face. Owing to the settlement of the building on the north, the red sandstone lintels of almost all the doorways and windows on the upper storey had cracked, and these were supported on angle irons or, where possible, replaced by new ones. The roof was relaid with concrete and the dome made watertight. The repairs have resulted in a great improvement to the appearance of the building besides giving it a new lease of life.

The conservation of the ARAB SARAI and certain monuments in its vicinity was also continued and brought to completion. The items executed during the year were repairs to the TOMB AND MOSQUE OF AFSARWALA and the clearance

of the site adjoining these buildings. A proposal for declaring the whole of the Sarai enclosure a protected monument and maintaining it is under consideration. Other works, which were commenced in the year 1925-26 and brought to completion this year, were the conservation of BHOLI BHATYARI-KA-MAHAL and the adjoining bund, and special repairs to a dome at HAUZ KHAS.

The most extensive undertaking of the year, however, was the acquisition of houses inside and outside the BEGAMPURI MOSQUE. This mosque was constructed by Khan-i-Jahan, the Prime Minister of Firoz Shah, who was also responsible for some other mosques of a similar type at Delhi, *viz.*, the Khirki Masjid, the Kalan Masjid in Delhi city and the Kali Masjid or Sanjar Masjid at the village of Nizamu-d-Din. The Begampuri mosque is entered by a domed gateway on the east and consists of a spacious courtyard enclosed by a series of 44 domed compartments on the north, south and east, excluding the north and south gateways which are no longer in use. To the west is the prayer chamber comprising a row of 8 compartments, 3 bays deep, on either side of the central hall, which is a square chamber, crowned by a big dome and with a high and massive archway on the east. The central row of the side compartments in the prayer chamber is also roofed with domes, while the central arch, which is the most prominent feature of the building, is flanked by sloping buttresses each containing a winding staircase leading to the roof. At present it is only the central chamber which serves as a mosque, the rest being occupied by a village with a crowd of squalid houses in the courtyard and *dalans*. In pursuance of a plan for the clearance and maintenance of the building a rough estimate amounting to Rs. 4,176 for evacuating the householders had been framed as far back as 1913, but for want of funds no action could be taken until the present year, when a fresh estimate for Rs. 7,000 was prepared by the Public Works Department followed by a further detailed estimate for Rs. 18,200, which was prepared at the instance of the Deputy Commissioner, Delhi, and included also the houses built outside the mosque against its northern wall. This estimate for Rs. 18,200 was funded before the close of the year, and all the houses duly acquired, the work of clearance being postponed until next year.

The conservation of the LAL BANGLA was another special work carried out during the year. The name Lal Bangla is given to an enclosure containing the tombs of Lal Kunwar, the mother of Shah Alam II, and his daughter, Begam Jan. The tombs are of red sandstone and are crowned by domes. The work mainly consisted of site clearance and resetting certain dislodged stones or replacing the missing ones.

The KOTLA FIROZ SHAH or the citadel of the city of Firozabad built by Firoz Shah Tughlaq contains the remains of several ancient buildings, which received attention during the year. The chief items executed were repairs to the underground apartments of the mosque which had to be cleared of earth and débris (Plate I, *c* and *f*). This mosque has been noticed by various authors who have been lavish in their praises. Zia-i-Barni says that on Fridays the gathering of worshippers was such that there was no room either on the lower or upper storey

or in the courtyard.[1] Timur visited the building and offered there his prayers and thanksgivings.[2] It is said, too, that the Emperor Firoz Shah engraved on the octagonal drum of its dome his well known work, the *Fatuhat-i-Firoz Shahi,* which records his religious and benevolent acts.[3] The dome, however, is gone, and all indeed of the mosque that has survived is the northern gate and the walls on the north, south and west.

The unsightly structure over the well in the enclosure of SAFDARJANG'S TOMB was dismantled, and in its place was fixed a railing of red sandstone *jali.* As remarked in the last year's report, the plate glass in the north and south openings of the MUGHAL ROOMS inside the DELHI FORT was removed to the main doorways on the east. By this arrangement a more pleasing effect has been produced and with the help of the electric light installed in 1925-26, the furniture and curios in the rooms are now displayed to better advantage. This work was carried out departmentally, as also was the purchase of 25 protection notice boards, required for various monuments at Delhi. At HUMAYUN'S TOMB the task of laying pipe lines for the distribution of the water supply was taken in hand and is expected to be completed next year.

At the beginning of 1926-27 conservation notes for annual repairs to the ancient monument at Delhi were drawn up and supplied to the Public Works Department for their guidance, and it is satisfactory to record that the recommendations made have been given effect to as far as funds permitted. The chief works executed in this connection were as follows:—

(*a*) DIWAN-I-KHASS.—The roof, which leaked and caused considerable damage to the ornamented ceiling, was repaired and made watertight. A broken marble lintel in one of the riverside windows was replaced by a new one, and the loose marble slabs of the floor were reset.

(*b*) KASHMIRI GATE.—The broken battlements were rebuilt, and the holes and open joints in the walls were filled up and treated with recessed pointing.

(*c*) LAL DARWAZA.—The missing stones of the pavement and plinth were replaced by new ones, while the roof was relaid with lime concrete and the broken merlons over the parapet were rebuilt.

(*d*) PURANA QILA.—At Sher Shah's mosque the floor of the prayer chamber and of the gallery in the thickness of the back wall was relaid with lime concrete and the roof was made watertight. The small mosque near the *Bara* gate was repaired, while the Humayun gate was cleared of earth and débris and made tidy.

(*e*) HUMAYUN'S TOMB.—The enclosure wall was rebuilt at two places and the compartments at the first floor level under the terrace were cleaned of earth and rubbish. A few of the broken and sunken slabs on the terrace were reset.

[1] *Tarikh-i-Firoz Shahi,* by Ziauddin Barni, Persian Text, page 562.
[2] *Zafar Nama,* by Sharfuddin Ali Yazdi, Persian Text, page 137.
[3] *Tarikh-i-Firishta,* Persian Text, part I, p. 150.

(*f*) CHILLA NIZAMUDDIN.—The site was cleared of earth and débris, and the opening giving access to it from Humayun's tomb was provided with iron grated doors.

(*g*) SABZ BURJ.—Mud plaster was removed from the walls inside, and the walls themselves were underpinned and treated with pointing. *The broken plaster was edged off, while the steps giving access to* the *chabutra* were rebuilt.

(*h*) LODI GROUP.—At MUHAMMAD SHAH SAYYID'S TOMB the stone jam of the doorway to the staircase was repaired, while the opening at the top was provided with a wire-netted door to keep out birds. Some of the pillars of the *chhatris* on the roof were out of plumb, and these were set right. At the BARA GUMBAD and SHISH GUMBAD the unsightly masonry jambs flanking the wire-netted doors were dismantled and replaced by wooden frames.

(*i*) TOMB OF SAFDARJANG.—The walls and piers of arches to the north of the entrance gate were underpinned and treated with recessed pointing, and the courtyard of the mosque, which forms the roof of the chamber containing the fountain, was made watertight.

(*j*) QUTB ENCLOSURE.—The missing red sandstone posts of the fencing surrounding the lawns opposite the Dâk Bungalow, were replaced by new ones, and the dilapidated graves repaired. At the Qutb mosque the parapet of the eastern and northern *dalans* was made watertight, and the floor of the north-east and south-east *chhatris* relaid with lime concrete.

(*k*) SULTAN GHARI'S TOMB.—Mention was made in the last year's report of the desecration of the graves at this tomb. They were restored this year to their former state, and necessary repairs were effected to the building. The marble pilasters to the north and south of the central *mihrab* in the prayer chamber were out of plumb and had to be dismantled and rebuilt, and in like manner the dislodged stones in the arched opening immediately to the north of the central *mihrab* were reset. The roof was made watertight, and the floor of the *dalans* and of the open courtyard was repaired.

Thanks to the New Capital Water Supply the condition of the Archæological gardens at Delhi remained satisfactory throughout the year, and withstood the heats of summer without loss. No additions or alterations were made in the Delhi Fort garden, which, under Mr. Long, maintained its customary high standard. The grounds of Kotla Firoz Shah and the Purana Qila were also kept neat and tidy. The garden at Humayun's tomb will be *susceptible of* considerable improvement when the new pipe lines have been laid. In the Safdarjang garden the northern approach was levelled and grassed. Similar treatment is required for the southern and western approaches, and they will be taken in hand as soon as funds are available. The gardens at Hauz Khas

and the Qutb are unfortunately not connected with the New Capital Water Supply, but in spite of this they were maintained efficiently, and their lawns and shrubs kept in a flourishing state throughout the year.

PUNJAB : HINDU AND BUDDHIST MONUMENTS.

By Mr. M. S. Vats.

During the year 1926-27, a sum of Rs. 39,510, inclusive of agency charges, was provided by the Government of India for the conservation and maintenance of Hindu and Buddhist Monuments in the Punjab. Out of this, Rs. 37,693 were placed at the disposal of the Secretary to the Punjab Government, Public Works Department, Buildings and Roads and Hydro-Electric Branches, for the following works, *viz.*, special repairs to the rock-cut temples at Masrur (Rs. 1,482), fixing of notice boards to monuments in the Kangra district (Rs. 401), acquisition of land at Katas (Rs. 666), construction of the Archæological Museum (Rs. 32,011), and raising pump level for water supply at Taxila (Rs. 669), and for annual repairs to monuments in the Punjab (Rs. 2,464). Rs. 1,617 were placed at the disposal of the Home Department, Punjab Government, for maintenance of the Police guard at Taxila and Rs. 200 at the disposal of the Superintendent, Hindu and Buddhist Monuments, Northern Circle, for notice boards. Agency charges having been reduced to 18 per cent, a sum of Rs. 279 was withdrawn from the Public Works Department, as well as a saving of Rs. 7,107. These amounts were added to the Archæological reserve, so that the net grant stood at Rs. 32,124.

At Masrur the only items of special repair were the provision to the principal shrine of a substantial wooden doorway of a typical Hindu pattern and the completion of the remaining portion of the fencing on the south side. These works have now been completed at a cost of Rs. 1,325.

UNITED PROVINCES : HINDU AND BUDDHIST MONUMENTS.

For the conservation and maintenance of the central Hindu and Buddhist Monuments in the United Provinces a sum of Rs. 25,875 was allotted against the last year's grant of Rs. 21,686. Out of this, Rs. 19,042 were placed at the disposal of the Superintendent, Archæological Survey, Muhammadan and British Monuments, Northern Circle, for special repairs to monuments in the Garhwa fort (Rs. 8,381), Buddhist remains at Kasia (Rs. 4,737), and Saheth (Rs. 1,636), purchase and erection of notice boards (Rs. 1,850), and annual repairs to Hindu and Buddhist Monuments in the United Provinces (Rs. 2,438). The balance of Rs. 6,833 was allotted to the Superintendent, Archæological Survey, Hindu and Buddhist Monuments, Northern Circle, for the following works at Sarnath: namely, conservation of Buddhist remains (Rs. 1,500), construction of two godowns (Rs. 3,446), of a surface drain to west of the museum compound (Rs. 522), of an iron gateway at the northern exit (Rs. 447), and for annual repairs to the museum (Rs. 918). The Superintendent, Archæological Survey, Muhammadan and British Monuments, Northern Circle, reported a saving of Rs. 1,823

which was withdrawn, but an additional sum of Rs. 1,380 was provided for the conservation of the Buddhist ruins at Sarnath, after which the revised allotment stood at Rs. 25,432 and was fully utilized. A brief summary of the conservation works carried out in the United Provinces is given below:—

SARNATH.—Bricks of special sizes having been procured last year, Rai Bahadur Daya Ram Sahni recommended certain measures of repairs to the Buddhist ruins at Sarnath, for which an estimate amounting to Rs. 4,341 was sanctioned by the Director General. But as Rs. 2,880 only were available during the year under report, repairs were confined to the Kushana or early Gupta monasteries II and IV, to the mediæval Dharmachakra-jinavihara of Queen Kumaradevi, and to the north and south retaining walls of the fore-court of the main shrine.

The western range of cells of monastery No. II has been repaired to a height of about 5′, that is, up to the existing height of the back wall in its best preserved section. Doorways to two of the cells in this monastery already existed and similar ones have now been provided to four cells on the west side. The plinth of the verandah wall has also been repaired.

Of the partially excavated monastery No. IV, two cells on the north and two on the east were standing to a height of about 4′. The others, along with the back wall, have now been raised to the same height and doorways provided as in the better preserved cells.

The foundation of the inner wall on the north side of the courtyard of the Dharmachakra-jinavihara, which for want of bricks had been repaired only to a height of 6″, was raised to about 1′-6″, while the core of the inner walls on the east and south was repaired up to the existing height at the south-east corner. Repairs have also been carried out to the outer and party walls of the foundation cells on the south and east sides. The facing of this monastery being of carved bricks, only the core was repaired as recommended.

Lastly, the retaining walls to north and south of the fore-court of the main shrine, which survived for lengths of 46 and 26 feet only at their eastern extremity, have now been restored for the missing lengths of 105 and 120 feet, respectively. This is a much needed improvement, as it will prevent the banks of earth behind the missing portions subsiding into the fore-court, and at the same time will help to restore it more closely to its original appearance (Plate II, *a*). All repairs were carried out in mud mortar except the three topmost courses, which were laid in lime, and the top was dressed with 9″ of screened earth to induce the growth of turf.

As foreshadowed in last year's report, a godown consisting of two rooms connected by an open archway for the storage of surplus antiquities has been consstructed behind the southern gallery of the east wing of the Sarnath Museum. The godown has been provided with stone shelves for antiquities, the design, except for the clerestory windows, being similar to that of the existing godown. An iron gateway has also been erected at the northern exit of the museum and the iron drain pipe (diameter 9″) below it, which was too small, has been replaced by a masonry drain covered with stone flags. A surface drain to the west of the

museum has been constructed to connect with the road culvert near the south-west corner of the compound. This obviates the danger of rain water ponding and flooding the lawns, which have lately been re-grassed. 1,700 cubic feet of *murram* was again provided out of the annual repair grant and the leakage of *chhajjas* made good by the use of Pabco Leakstop.

KASIA.—The south and west sides of monastery D at Kasia were repaired in 1924-25, and the cells on the other two sides have now been repaired after removal of the lime plaster from the tops of walls. The verandah wall on the east, which was in a very dilapidated condition, was dismantled and re-built, mostly with the same material, except at its northern end, where the lower portion exhibits irregular brickbats on both sides. The parapet of the later well in the courtyard has been repaired and secured by an earthen ramp.

Adjoining monastery D, on the south side, is monastery L, which has the usual chambers on four sides and a well in the centre. After the excavations of 1906-07, doorways and wall ends in this monastery were strengthened by stepped buttresses. These have now been removed, jungle cleared, walls repaired wherever necessary, and their tops dressed with clean earth everywhere except on the north which still remains to be attended to.

In MONASTERY O, the greater part of the south side, and part of the east also has been rebuilt on old foundations, the walls of the courtyard have been raised by about a foot and jungle cleared. Certain minor measures calculated to improve this monastic area are still necessary and will be carried out as soon as practicable.

A sum of Rs. 18,447 was contributed for the restoration of the PARINIRVANA STUPA and the MATHA KUAR TEMPLE at Kasia by Messrs U Po Kyu, K.S.M., Retired Additional District Magistrate, Henzada, and U Po Hlaing, T. P. S., Honorary Magistrate, Kyangin, Henzada. Detailed plans and estimates for these works were sanctioned by the Director General of Archæology in India. As, however, bricks of a special size had to be manufactured and burnt at the site, building work could not be started till the middle of January, 1927, and is not expected to be completed before the end of July, 1927. An account of this project, therefore, will be reserved for next year's report.

At Saheth, the site of the JETAVANA-VIHARA of SRAVASTI, special repairs were carried out in accordance with a conservation note drawn up in 1918.

The cells of the monastery round temple No. I were excavated in conformity with the ground plan published in the *Annual Report* for 1910-11, Plate II, and the walls were repaired to a height of about 2′ with original bricks, the tops being then dressed with 9″ of clean earth. The inner courtyard has been levelled with a gentle gradient towards the east, so as to be drained by the large channel in the north-east corner. The village path, which ran through the monastery, has also been diverted and, except on the north, the area around has been dressed for 15 feet. These measures have had the effect of materially improving the appearance of this large monastery (Plate II, *c*).

The recommendations regarding monasteries G and F have not been satisfactorily carried out, but fortunately the defects can easily be remedied. The

two oblong chambers which flanked the ruined flight of steps on the south have been repaired contrary to the instructions in the conservation notes, and the size of the drainage channel which runs through the south-east corner of the monastery is only 6″×9″ as against 12″×12″ provided for in the estimate. The necessity for digging a *kachcha* soak tank to absorb rain water can be obviated by the deepening of an existing channel through which rain water can be diverted into the dry lake on the north-east. But before advantage can be taken of this, the open space in front of monasteries G and F must be properly sloped and dressed.

With the conservation of shrines 2, 3, 4 and the Trimurti temple alongside the south wall of the rampart, special repair works to monuments in the FORT OF GARHWA, which have been in progress for the last two years, have now been completed, the total cost being Rs. 20,855. Wherever possible, old materials have been utilised in the repairs. Shrines 2 and 3 have been left unroofed but drained, while No. 4 and the Trimurti temple have been roofed with flat slabs 9′ long and 8″ thick and terraced over with 6″ of lime concrete. Their roofs, like the roof of the Surya temple, have been provided with drain spouts.

The Trimurti temple was supported in front on two pillars and two pilasters of which one pilaster on the west, together with the lintel over the last inter-columniation on this side, was missing, while the corresponding lintel on the east was broken and supported on another pillar brought from the site. Part of the old inner cornice, which was recovered, has been utilised for the west wall, and one new pilaster and two lintels have been provided. The floor has been relaid (Plate II, *b*). On the whole the work has been satisfactorily executed, though at places lime appears to have been mixed with cement contrary to specification, some fissures have been left ungrouted and the bed of the cornice has been levelled by filling in with lime instead of with stone chips. Although work is supposed to have been finished, the dressing on the south side has been very superficially done; stones in front of shrine No. 3 are lying in disorder, while the jungle over the tanks and along the north and east sides of the rampart walls remains uncleared. The eastern and northern portion of the fort area which is covered with débris also needs attention. The Superintendent, Muhammadan and British Monuments, Northern Circle, has been requested to rectify these defects.

Fifty NOTICE BOARDS of standard design were purchased, of which thirty-five were fixed to Hindu and Buddhist Monuments in the United Provinces and the rest reserved for next year.

Out of the ANNUAL REPAIR GRANT jungle clearance was effected at several temples in the Hamirpur district. Wire fencing at the Makarbai temple was repaired and a few dislodged stones of the wicket gate were reset. In the fort at Talbehat, jungle was cleared, pitching repaired and *murram* spread on footpaths. The spires of the Radha Ballabh and Govinda Deo temples were made water-tight, some floor slabs and a missing stone bracket of the *chhajja* in the former were replaced, while in the Govind Deo temple, decayed stone-

mouldings of the plinth were made good and a teak-wood door of Hindu pattern provided to the eastern chapel.

PUNJAB : MUHAMMADAN AND BRITISH MONUMENTS.

By Mr. H. Hargreaves.

The total expenditure on the conservation of the Muhammadan and British Monuments in the Punjab was Rs. 78,977, of which Rs. 14,641 were expended departmentally and Rs. 64,336 by the Public Works Department. The most important works carried out by the Public Works Department were the completion of the Tube Well and the construction of an Overhead Service Reservoir in LAHORE FORT for the supply of water to the garden and fountains, for the restoration of which the preliminary operations are now in hand. Other special works were the provision of fencing around the JAHAZ KOTHI at HISSAR, the removal of the Cross from the dome of ANARKALI'S TOMB and substitution of an appropriate finial in its place, and special repairs to certain remains along the old Badshahi highway, namely the SERAIS at DAKHNI and NUR MAHAL and KOS MINARS in the Jullundur District.

Of the monumental remains on the Mughal road from Delhi to Attock four serais, five baolis, two bridges and sixty five Kos Minars still exist and are maintained by the Central Government. As might be anticipated, the Kos Minars are most numerous and generally better preserved in proportion as they are nearer to the capital. The best of the Mughal Serais in the Punjab is that at DAKHNI, some twenty miles south-east of Jullundur. The outer wall is complete and the two magnificent gateways with tile mosaic are in excellent preservation. On either side of the gateways are fifteen *dalans* fronted by arched verandahs, and similar structures are found on the northern and southern sides. The corner rooms are larger, having a bastion which must originally have been surmounted by a *chhatri*. In the centre of the northern and southern walls large double-storied buildings with three arched openings replace the gateways of the eastern and western sides. A small three domed mosque with court-yard and entrance gateway is situated in the south-west quarter of the enclosure. Some ruined foundations east of the mosque may mark a former *hammam*.

Special repairs have been carried out to the battlements, walls, roofs and *dalans* and to the mosque, the openings of which have been fitted with iron gratings and doors and netting to keep out bats and birds. The interior of the Serai has been cleared of jungle and débris, and paths have been made in front of the *dalans* as well as from the gateways and connecting the north and south sides.

The *Kashi* work of the gateways is in no way inferior to the similar work in the Lahore Fort, and green, white, yellow, orange, turquoise, indigo and purple give great variety to the ornament. It is to be regretted that on account of its remote situation this monument is so little known and so rarely visited, for it is one of the most interesting of the Mughal remains in the Punjab.

About 13 miles east of Dakhni Serai is the SERAI OF NURMAHAL.[1] Although the whole serai is a protected monument, it is only the red sandstone gateway with its curiously stiff representations of horses, elephants, and other animals which can be in any way adequately protected, as the rest of the buildings are occupied by various departments. The recent special repairs have done something to improve the gateway, but students have greatly disfigured the inside chambers by inscriptions.

The works carried out departmentally at the FORT OF LAHORE, in addition to the annual repairs of the walls and historic buildings, were the demolition of the old Fives Court just inside the Hathi Gate, the modern bridge over the elephant steps, servants' houses on the north and east of the *hammam*, the verandah of building No. 34, and modern additions to the buildings on the east and west of Jahangir's quadrangle, the further excavation of the garden areas between the ancient causeways and the restoration of a stretch of the causeway on the north side, which appeared to have been destroyed by the Sikhs. The existing remains of the former *dalans* around the courtyard south of the Diwan-i-Amm were traced by excavation, and in the outer defences much clearance and levelling was done and a number of chambers opened at the base of the palace wall on the north. A large mound of débris, the accumulation of the excavations of the previous year, was also removed from the Fort.

The removal of the Fives Court has revealed the existence of more arcades in the upper part of the north wall and steps giving access thereto, while the demolition of the modern verandah of Building No. 34 has disclosed four very beautiful marble screens (Plate III *a.* and *b.*). It must be confessed that these British additions were erected with needless brutality, for a little adjustment of the brackets for the wall plate would have rendered unnecessary the breaking of both sides of the upper edge of the main screen. The removal of modern verandahs and fillings in Jahangir's quadrangle is now almost completed. The original red sandstone pillars are generally in good order. The appearance of Building No. 38, on the west side of the Courtyard, before and after these operations is shown in (Plate III *c.* and *d.*). One of the weakest Mughal constructions was the flat arch roof, of which so many examples occur in the Fort. In small chambers and where the roof was carried by four strong walls they are generally secure, but in larger rooms and particularly where a wall is replaced by columns they have almost invariably fallen or are so cracked that heavy brick piers are necessary to support them. The restoration of these roofs will be one of the principal works in the conservation of the buildings of Jahangir's quadrangle.

On the 18th October, 1926, a Viceregal Darbar was held in the DIWAN-I-AMM, Lahore Fort, probably the first Imperial Darbar held there since the time of the Emperor Aurangzeb. In connection with the Darbar special repairs were undertaken including the conservation of the plastered plinth of the platform, the provision of temporary steps at the ends of the hall proper, the restoration of a missing marble railing of the *jharoka* and colour washing the outer face of the

[1] *C. S. R.* Vol. XIV, pp. 62-65.

superstructure, in order to bring it into harmony with the red sandstone pillars. From the existing traces of the interesting sandstone railing round the platform in front of the Diwan-i-Amm it is certain that originally access was from the sides, the Emperor himself approaching the hall from behind the *jharoka*. For the purposes of the darbar it was, however, necessary to provide temporary steps in the centre of the south face of the platform.

It is quoted on the authority of Mulla Abdul Hamid, Lahorī, the court chronicler, that the Emperor Shah Jahan ordered that "a hall of forty pillars be erected in front of the *jharoka* of the Daulat-khana-i-khass-o-Āmm"[1] and the Diwan-i-Amm is frequently referred to as a hall of forty columns. But though the emperor may have so directed, it should be noted that actually the Diwan-i-Amm does not contain forty, but forty-eight pillars and twelve pilasters.

"A hall of forty pillars" might, of course, be merely a colloquialism for a many-pillared hall, but something like authority for this number forty has been given by the reproduction of an old Sikh plan of Lahore Fort, which erroneously shows thirty pillars and ten pilasters.[2] A correct plan of the Diwan-i-Amm showing the arrangement of the columns and pilasters is, however, given in the *Annual Report of the Archæological Survey* for 1909-10, Fig. 1, p. 34.

On the evacuation of the Fort by the Military Authorities in 1923 it was handed over by the Government of India to the Punjab Government. Part of the area inside the Fort, with the buildings therein, was subsequently transferred by the Punjab Government to the Archæological Department, it being the intention of the Local Government to retain the rest of the Fort area for its own purposes. The discoveries made by the Archæological Department in its excavations and demolitions in 1925-26 having shown the Fort to be of greater archæological interest than had been at first supposed, the Punjab Government has now agreed to make over the whole of the area inside the Fort, save a small portion at the south-west occupied by modern buildings, to the Archæological Department on certain conditions, with a view to its restoration and lay out on the lines of the Fort at Delhi. Among the conditions are the maintenance by the Archæological Department of a small museum inside the Fort to contain exhibits connected with the Fort, and acquiescence in a proposal of the Local Government to demolish part of the modern south wall and to replace it by a series of terraces connected by flights of steps in order to demilitarize the Fort.

These terms having been accepted, it will now be possible to restore by shrubberies the outline of the lost *dalans* of the great courtyard which lay to the south of the Diwan-i-Amm and to give an appropriate lay-out to the courtyard itself. At present, the former British barracks and their appurtenances front the Diwan-i-Amm and are occupied by the Punjab Hydro-Electric Department. These are likely to be evacuated next year, when their demolition and the laying out of the courtyard may be taken in hand.

[1] Cf. *A. S. I.* 1902-03, p. 200; *A. S. I.* 1909-10, p. 34; *Tile Mosaics of the Lahore Fort*, p. 21.
[2] *A. S. I.* 1902-03. Plate XXXIII; The *Tile Mosaics of the Lahore Fort*, Plate II.

The limits of this courtyard and the existing ancient remains have recently been traced by excavation, but the exact form of the old gateways on the south and east is not clear, while the foundations of the western entrance must have been destroyed when the modern ramp was made in British times.

The best preserved portion of the Mughal palace in the Lahore Fort is the Muthamman Burj, and the most striking building in this area is the Shish Mahall, or Palace of Mirrors, which receives its name from the mosaic of glass laid in gypsum which decorates its roof and walls (Plate IV, *a*). This decoration belongs to two epochs, the ceiling, in excellent taste, being original Mughal work. Of the ornamentation of the walls, which is typical Sikh work, Dr. Vogel, in his scholarly description of the Lahore Fort writes, "The wall decoration, on the contrary, is decidedly vulgar and the introduction of fragments of blue and white china bears testimony to a childish taste."[1] Eight specimens of this blue and white ornament occur high up in four of the large panels of the main hall, four on the walls of the arched opening leading to the small room to the north. four in the similar arch on the north side of this small room, and one on its western wall. That these seventeen pieces of blue and white ornament should have been taken for fragments of blue china is not surprising, since all assume the form of vases of various shapes, the colouring is precisely that of blue china, and they are at a height which renders it difficult to recognize detail. A chance remark by a keen-sighted visitor on the very Indian appearance of a small domed pavilion on one of these vases led to a detailed examination, when it was discovered that these fragments were not china but paintings on Indian paper, placed between glass. As the glass of one example was broken, it was possible to examine the painting which had apparently been done in indigo, with water as medium. Glass was an absolute necessity for the preservation of the painting as the colour rubs off like a dry powder with the lightest touch. Landscapes, a hunting scene, a combat between mounted warriors, a fort, pavilions, prancing horses, rivers, boats of various kinds, a deer, a demon face and trees—all appear in miniature in these paintings, as well as conventional decorative designs.

That these were intended to simulate blue china is certain, for though all the achitectural details, trees, landscapes, boats, etc., are Indian, their colouring and arrangement particularly the rivers cutting diagonally across the vases, are undoubtedly copied from Chinese art. While it appears that this form of painting did not achieve popularity (at least no other specimens have yet been traced), the success of the artist in counterfeiting the appearance of blue china must be acknowledged, for it has taken nearly a century to detect the true nature of these fragments.

Contemporary wall paintings in blue, but more conventional in design and in poor condition, also occur in the lowest panels in the Shish Mahall and adjoining rooms.

The bedding out in the Mughal parterres of the second terrace at the Shalamar Garden was most successful in the autumn and spring, and was much admired on the occasion of the garden party given there in October, 1926, on the

[1] Vogel, *The Mosaics of the Lahore Fort*, Calcutta, 1920, p. 25.

occasion of the visit of His Excellency the Viceroy to Lahore. New roses have been planted in the rose garden and funds have now been provided for the planting of shrubberies in the lowest terrace. The Chiraghan Mela, which is held every spring in this garden and which entails the erection of stalls and cooking places along the sides of the brick paths, is a cause of great anxiety to the Garden Superintendent, who thinks it would be much to the advantage of the gardens if this fair could be held elsewhere.

The Gardens at Shahdara have been well maintained and the substitution of clerodendron for the former creeper along the plinth of the *dalans* of the Serai is a great improvement. On the south of Jahangir's Tomb the ground has been prepared for extending the layout of cypress and flower-beds. Gardening at Nur Jahan's Tomb is rendered difficult by the *shora* which destroys the lawns and turns the surface of the foot-paths into a white powdery mass. Macadam footpaths will have to be laid to overcome this constant efflorescence.

The popularity of The Hazuri Bagh garden is well maintained. School children and others leave much rubbish on the lawns and it is a constant struggle to keep the garden clean and tidy for thousands of people visit it daily. The fountains now play there twice a day. On the long brick slope on the west side clerodendron has been planted and should soon cover its present unpleasing bareness.

NORTH-WEST FRONTIER PROVINCE.

In the North-West Frontier Province Rs. 3,296-8-0 were spent on the conservation of monuments, of which sum Rs. 2,641-8-0 were expended departmentally on annual repairs and maintenance.

BOMBAY PRESIDENCY WITH SIND.

By Mr. G. C. Chandra.

Of the sum of Rs. 1,35,241 allotted for conservation in the Western Circle Rs. 29,017 and Rs. 1,06,224 were placed at the disposal of the Archæological Superintendent and the Bombay Public Works Department respectively. Out of these allotments Rs. 7,200 were for grants-in-aid towards the acquisition of modern houses adjacent to monuments at Ahmedabad and Rs. 26,353 for the construction of new quarters at Mohenjo-daro required in connection with the excavations there. The former sum, which was assigned to the Collector of Ahmedabad, could not be utilised by him before the close of the year and consequently lapsed. In addition to the grant from the Central Government, the Bombay Government were pleased to allot Rs. 5,940 and Rs. 3,471, respectively, for special works to be carried out inside the palace of the Peshwas in Poona City and for the erection of a *chhatri* over the *samadhi* of Sri Sivaji at Raigadh in the Kolaba District. Moreover, the Municipality of Viramgam and the Sunni Muslim Waqf Committee of Ahmedabad contributed Rs. 1,500 and Rs. 72,000, respectively, towards urgent repairs needed to the stone banks of the

Mansar Talao at Viramgam and the acquisition of modern buildings against the front of the Tomb of Ahmed Shah I and the Jami Masjid, one of the gems of architecture at Ahmedabad.

In the BIJAPUR District, one of the chief centres of conservation in Western India, no less than twenty special works were undertaken during the year. The repairs in progress last year at the GOL GUMBAZ were continued. The plastering to the soffit of the dome has been completed; the cracks in the dome have been attended to; and the compound wall has been finished with lime pointing. The modern causeway between the outer platform of the Gol Gumbaz and the Naqqarkhana, over which carriages formerly used to go to the main platform, has been completely removed (Plate IV, *b*) and the open joints in the basement of the Naqqarkhana have been lime pointed. Urgent repairs to the compound wall of the ASAR MAHAL were taken in hand during the year, and, to satisfy the pressing needs of the local Muhammadans, the ablution tank in the centre of the CHHOTA ASAR MASJID, remarkable for its stucco work, was made watertight and a shallow channel provided around it (Plate IV, *c*). In the MECCA GATEWAY the cracked lintel over the main entrance was also supported by a neat frame of iron joists.

At NAREGAL preliminary repairs to the temple of Naganath situated on the left hand side of the cart track from Banasankari to Pattadkal, referred to in last year's report, were completed. Two dangerously overhanging lintels were supported by iron joists. The temple is built up of large stones with fine joints without any mortar (Plate IV, *d*). The main shrine, square on plan with a *linga* in its centre, has a narrow circumambulatory passage with a rectangular *mandapa* in front, supported on six pillars. The ceiling of the *mandapa*, divided into three panels, is adorned with beautifully carved sculptures of Vishnu, Brahma and Mahesvara. In the first panel, Vishnu is seated holding the *sankha*, *chakra* and *padma* in three hands, while the fourth or lower right hand rests on the right knee in the *jnanamudra* pose. Garuda, holding a serpent in his left hand, is seen flying at the upper left hand corner, and there are other figures of musicians, etc. In the second panel, Brahma, seated on a lotus throne, appears holding the *akshamala* and *padma* in upper right and left hands and a purse-like object in his lower left; around are four guardian deities, Indra, Agni, Varuna and Yama, with their characteristic vehicles, the elephant, ram, crocodile and buffalo. In the third panel, Mahesvara with his consort Parvati is seated on a running bull surrounded by other figures.

At NAVRASPUR-TORVI, the short-lived capital of Ibrahim Adil Shah II, the Sangit Mahal was attended to and repairs to its walls were completed, while to the monuments at Badami, Aihole and Pattadkal increased attention has been given. The condition of the buildings at the last mentioned place is particularly unhappy, owing to the many ugly modern structures by which they are obscured. A scheme for the acquisition of the latter is now being elaborated by the Executive Engineer, Bijapur Division. Means of access to the Aihole monuments have been improved by the Bombay Government, but at Pattadkal no proper road to the temples has yet been made.

In the AHMEDNAGAR DISTRICT, four special works were undertaken during the year under report. The scheme framed by the Archæological Superintendent for providing a road to the water-palace of the Nizamshahi kings at Faria Bagh, has been approved by the military authorities. The actual work of planting trees around the tank and on either side of the avenue will be taken up in consultation with the local military officers. The repairs to the octagonal platform were started during the year under report; and modern additions and infillings under the arches of the tomb near Changiz Khan's palace at Ahmednagar were removed.

The special repairs to the five isolated gateways at TISGAON, started during 1925-26, were completed according to the estimate, but certain new items which were not included in the previous estimate, have still to be undertaken.

At BHAMBURDA, near Poona City, preliminary measures were undertaken with a view to improve the unsightly appearance of the famous Brahmanical Caves. These measures included the provision of a compound wall with a self-closing iron gate; the erection of two dry stone retaining walls on either side of the steps leading down to the courtyard; and the clearance of earth from around the Nandi Pavilion to expose its plinth (Pl. V, figs., *a* and *b*). The remarkable circular monolithic pavilion in the centre of the courtyard is a unique specimen of Brahmanical Cave architecture, and is probably older than the Caves at Jogesvari (600-700 A.D.).

Repairs to the Brahmanical Caves at JOGESVARI or Amboli, begun last year, were continued throughout the year. The removal of débris from the open court yard to the east of the main cave disclosed two broken lions on either side of the third door from the east. Light is now freely admitted to the main cave and the panels over the fourth entrance to the main pillared hall are clearly visible (Pl. V, fig. *c*). Dry stone walls were provided along the entrance to the west, and shallow channels were cut in the rock to prevent water flowing over the façade to the south and west sides.

At SARNAL, repairs to the GALTESVARA MAHADEVA temple were continued during the year. The outside pillars of the *mandapa* were set plumb with their old capitals and lintels. Unfortunately, all the stones for covering the roof could not be recovered from the heaps of débris and so the work had to be postponed till next year. At NANAGHAT, an iron-railing was provided in front of the row of water cisterns to the right side of the inscribed cave and other minor items of work were completed. At KARLA, in the Poona District, further clearance of earth and débris from the cave area was continued during the year, and the beds of the water channels on top of the hill, through which water was percolating, were made watertight by stone and lime concreting. Steps were taken to provide a low compound wall in front of the caves.

At ELEPHANTA, the task of altering the Custodian's quarters was started during the year. To prevent leakage of water through the cracks in the main cave, two channels were cut on the top of the hill and walls were erected on the top for diverting the rain water. In the FORT AT BASSEIN, in the Thana District,

the work of removing the wild growth of *lantana* bushes around the ancient Portuguese remains was continued.

The allotment sanctioned by the Bombay Government for the palace of the Peshwas at the SHANWAR WADA was usefully spent in repairing the plinth of the main building as well as in supplying missing stone coverings over the long drain running beneath the pavement of the passage from the south side of the palace to the Ganesh *darwaza.* At RAIGADH, in the Kolaba District, the work of repairing the ancient retaining wall in front of the arcaded *dalans* which was started last year, was finished and the whole area outside the temple of Siva on the hill-fort was made level.

In the AHMEDABAD DISTRICT four special works were undertaken during the year. The modern buttresses, built uselessly some years ago against the front wall of Ahmadshah's Masjid at Ahmedabad, were removed and paths and lawns were laid out in the compound. The Raipur gate in the city wall of Ahmedabad was also attended to, its fallen walls and missing terraced roof being repaired.

Around the MANSAR TANK AT VIRAMGAM extensive repairs to the ancient walls of the bank were started. In repairing the walls several stones belonging to the long series of small temples were recovered and laid aside for future use in the work of repair. Repairs to the cracks in one of the two existing domes of BAHLOL KHAN QAZI'S MASJID AT DHOLKA were taken in hand, but it became apparent that the whole of the concrete covering would have to be renovated, and the work was, therefore, temporarily suspended.

The repairs to the BHAMARIA WELL AT MAHMUDABAD, started some years before, were brought to a finish with the provision of wire fencing and the acquisition of a small area of land close to the monument.

At CHAMPANER-PAVAGADH, in the Panch Mahals District, progress was made with the special repairs to several of the monuments. Portions of the wall outside to the north and east of the Jami Masjid, where the facing masonry was missing, were repaired with old stones supplemented by new ones, where necessary. One arch of the Godhra gateway leading to the citadel at Champaner, which was very badly out of plumb, was taken down and rebuilt after repairing the jambs. Some bulging masonry in the bastion to the right of the main gate was reset in lime and the joints pointed with cement. Repairs to Gabel Shah's Well and the Ek-minar-ki-Masjid at this place, which were in progress last year, were finished according to the estimates.

Attention was also given to a small Masjid attached to the SATYAN-JO-THAN AT ROHRI in the Sakkar District of Sind, where thorough repairs to the high platform of the tombs had been carried out previously. The work consisted of underpinning the walls of the Masjid with old bricks, filletting the edges of existing plastering and pointing the open joints with *chiroli* lime mortar.

Conservation work in the group of Muhammadan monuments at TATTA (Thatta) in the Karachi District, which had been stopped on account of certain mistakes made by the agency Department, were resumed during the year. Urgent repairs, such as filling in the cracks in the domes and providing brick

masonry for the open gaps, were carried out to a DOMED STRUCTURE NEAR AMIR KHALIL KHAN'S TOMB, and to the TOMBS OF MIRZA JANI BEG and NAWAB ISA KHAN. Further works at this group of monuments must await the revision of the original estimates suggested by the Executive Engineer.

BIHAR AND ORISSA.

By Mr. J. A. Page.

In the Central Circle, a sum of Rs. 40,397 (exclusive of agency charges) was spent on the conservation of ancient monuments during the year under review. Of this sum Rs. 18,933 were spent in the Bihar and Orissa Province, where Rs. 15,444[1] went to Special Repairs (non-recurring charges) and Rs. 3,489 to Annual Repairs and Maintenance (recurring charges); and the residue of Rs. 21,464[2] in the Central Provinces, where Special Repairs accounted for Rs. 13,268 and Annual Repairs for Rs. 8,196.

The final grants for the two provinces were Rs. 21,742[3] and Rs. 21,916[4] respectively, and the sums that were allowed to lapse unutilized were thus Rs. 2,809 and Rs. 452.

Apart from the operations at Nalanda, in Bihar, which were carried out by the Archæological Superintendent direct, all conservation work in the Central Circle was done through the agency of the Public Works Departments, an additional charge of Rs. 23 per cent. in the Bihar and Orissa Province and 30 per cent. in the Central Provinces on the estimated cost of the work being paid by the Archæological Department for this service.

On the conservation of the excavated remains at NALANDA a sum of Rs. 7,199 was spent against an allotment of Rs. 7,200 in all.[5]

A brief description of the Nalanda site and its distinctive features is given under "Exploration", and need not be repeated here.

Monastery No. 1.—The conservation of this monastery, which has been in progress for several years, was continued, and was the principal work undertaken in the year under report.

The south verandah had been excavated in the previous year down to the "Devapala" level in conformity with the scheme to expose the earlier levels over the southern half of the monastery and the later levels over the northern. As mentioned in the last report, the later wall along this verandah was found built directly on the badly shattered remains of the earlier wall, which inclined at a precarious angle into the verandah. This shattered earlier wall has now been removed and rebuilt, and the high later wall that it supported has been

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[1] Includes Rs. 7,199 spent by the Archæological Superintendent direct on Nalanda and Rs. 2,205 spent on providing an electrical installation in his office.

[2] Includes Rs. 985 spent by the Archæological Superintendent on the purchase of enamelled iron notice boards for protected monuments in the C. P.

[3] Exclusive of agency charges @23 per cent. payable to the P. W. D. These amounted to Rs. 2,607 on a sum of Rs. 11,334.

[4] Exclusive of agency charges @30 per cent. payable to the P. W. D. These amounted to Rs. 6,117 on a sum of Rs. 20,389. The corresponding original grants were Rs. 19,648 and Rs. 23,266.

[5] The original allotment was Rs. 5,000 and this was subsequently increased.

carried on a continuous series of reinforced concrete lintels, themselves carried on rail-iron cantilevers let into the new wall below. This expedient has permitted the old alignment of the later wall, which comes some 12 inches in front of the earlier one below it, to be maintained in the repair (Plate VIII, *a.* and *b*). The series of lintels have been inserted under the actual remains of the old later wall above, and the varying heights of the lintels mark the extent to which the earlier wall here survived; thus, while the lower parts of the earlier cell doorways have been exposed and repaired, the full height of the doorways at this level is nowhere indicated in this repair.

The low cell walls of the uppermost level along this south verandah have also been repaired in accordance with the features in evidence in the old work; and the exposed top has been made watertight with concrete, on which a rough hearting of brick-in-mud has been laid with a top-dressing of earth to encourage the growth of grass and so induce a more natural appearance of ruin.

The back wall of the verandah on the west side of the monastery has been similarly underpinned and repaired, and the overhanging wall-face of the later structure above it has been supported on a further series of concrete lintels and rail cantilevers in the same manner as the south verandah wall described above. In certain of the cells along the west verandah the dangerously inclining walls of the lower levels, on which the later walls had been erected, had to be very carefully removed and rebuilt plumb to support the later walls above them.

In some cases, where the old structure was too dangerously shattered to be underpinned, the whole wall between the adjoining cells has been dismantled and re-built, the indications of subsequent structures that it contained being carefully repeated in the new work.

As mentioned in the previous report, the inner wall of the main west entrance gateway has been removed over the southern half to permit of access to the lower west verandah; and over the northern half the upper, later, structure of the gate is being preserved.

This involved the underpinning of the upper half of the gate, and in the year under review this work has been carried out. The underpinning has been done with a solid core of brick inside and, with a view to rendering these very complicated remains as intelligible as possible to the visitor, this brick underpinning has been faced with concrete carefully bonded to it and brought to a rough surface to represent the original débris found beneath the later walls. With an underpinning wholly of brick, it would be easy to confuse the old work with the modern structural expedients that have had to be introduced to support it, particularly after the new work had weathered in the course of a few years; but, with a concrete face to represent débris, this possible confusion is avoided (Pl. VII *c*).

The wide external stair that was subsequently built over the earlier entrance hall of this monastery to afford access to the higher levels from the lower ground outside, had been excavated some years back, when the ground about the foot of the stair was cut away down to the earliest pavement outside the

monasteries, the height between this pavement and the foot of the stair being about 10 feet.

In the year under report this great projecting stair was underpinned down to the earliest pavement on the south and west sides; and, here again, to render the sequence of the structures more intelligible, the inner core of brick underpinning was faced with a rough concrete securely bonded to it, the concrete face representing the débris that was originally found beneath the stair (Pl. VII, *c* and *d*).

The stepped side-walls of this stair as repaired by the Public Works Department several years ago had been wrongly built up to repeat the smaller rise and tread of the actual steps instead of each offset maintaining a rise and tread equivalent to three such steps, as has been found elsewhere about the site. This has been corrected in the repair carried out this year, when the missing concrete treads and risers of the stair were also replaced with new concrete to match what remained of the old (Pl. VII, *c* and *d*).

In the monastery courtyard, the remains of a little shrine that were found on the *chabutra* projecting from the south wall (described under "Exploration") were carefully built up breast high, and the little image-pedestal it contained along the east wall was repaired. The three separate concrete pavements that had been recovered under the floor of the entrance porch were made good, each over one-third of the floor space, so that a portion of each is open to view. The two earliest pavements finished at the edge of the *chabutra* with a simple rounded nosing, but the third had a concrete parapet similar to that of the verandahs of the monasteries generally, and these features have been reproduced in the repair.

The old brick pavement of the earliest level of occupation in this courtyard was found in a very broken and uneven state, which caused the rain water to lie in large puddles all over the court. This has now been remedied by taking up the old broken pavement over the whole of the courtyard and relaying it to an even fall with new bricks of the same size and in the same arrangement as the old ones; so that the rain water in this deep excavation is now carried away outside the monastery through the original drain at this early level in the N.-E. corner of the courtyard. From the point of view of picturesqueness one would have preferred perhaps to keep the old uneven pavement, but structural necessities were against it, and these must be deferred to when it comes to a choice between the two.

Monastery Site No. 4.—The ruined cells of the uppermost level of occupation (the fourth in sequence of time) on the south side of this monastery have been built up some 3 to 4 feet above their floor level, and the little bed-recesses in the thickness of the back wall have been carefully repeated in the new work on the model of a badly broken one found in one of the cells here, which itself was too shattered to preserve.

The north external wall towards its west end, together with its contiguous cells, was also repaired where it was broken away, and the old beam-holes that accommodated the original roof timbers were carefully repeated in the new work.

This is the only indication so far afforded by the remains at Nalanda of the actual height of the monastery rooms, which is here 11 feet from floor to ceiling; and the structure in which it is preserved belongs to the "Devapala" level of occupation. The fallen wooden lintels of 5 of the cells at this N.-W. corner have been replaced by reinforced concrete ones and the shattered wall above has been largely rebuilt, the old line of demarcation between the earlier wall and the later one on top of it being preserved in the repair.

In conformity with the scheme for exposing the earlier levels over one half of the monastery and the later levels over the other half, the northern half of the entrance hall on the west had been excavated down to the earlier levels; and the southern half, exhibiting the upper levels, has been underpinned with brick, faced with rough concrete to represent the original débris found beneath the upper structure. With the same idea, the earth below the upper verandah behind the gate has been supported with a high retaining wall of concrete at the junction between the higher and lower levels, again to differentiate the old structure from its modern support and make these remains as self-explanatory as possible.

The north half of the western verandah and the whole of the northern verandah in continuation of it having been excavated down to the "Devapala" level, the later wall that had been erected in front of these verandahs, on the sloping débris of the earlier monastery, was securely underpinned, the work being carried out piecemeal and *pari passu* with the removal of the supporting débris. This débris, as with the corresponding feature in Monastery No. 1 adjacent, was largely composed of vitrified masses of roof-concrete, and it indicates clearly the nature of the disaster that befell these buildings.

Monastery Annexe Site No. 5.—The repair of the enclosing wall and its attached cells along the east front of this building, which was commenced in the previous year, was completed; and a short length of a later wall that had been erected against it at a higher level towards the south end was dismantled and rebuilt on a series of reinforced concrete lintels; this being the most practicable way of preserving a feature that is of interest only in the evidence it affords of a subsequent structure having been erected on the ruins of the earlier annexe.

Stupa Site No. 3.—The N.-W. corner of the seventh and outermost structure to be built on this one site has been dismantled and rebuilt plumb, the old original string-courses being repeated in the new work; for the old walls were too badly bulged and out of plumb to allow of their being dealt with in any other way. In the course of dismantling the old bulged wall preliminary to its rebuilding, the ruined half of an earlier votive stupa projecting from the façade came to light: and this little stupa was found to contain the remains of a still earlier little stupa inside it. These two little stupas have been repaired, along with the wall face, in accordance with the old remains hidden inside it, and the face of the later little stupa of the two has been cut back a little to reveal that of the earlier one, so that they both come into view.

The high wide stairs that led up from the ground to the upper parts of the sixth structure here, were built up again where missing, to afford access to the

top of the stupa mound, whence a comprehensive view of the Nalanda site is obtained. As stated in the account of this feature under "Exploration", the upper portion of the stair had been disclosed some years previously, and in the present year the lower steps were recovered on the removal of the later structure that had been built above them. With the top and bottom of the stair thus preserved, the reconstruction of the broken steps in the intervening portion presented no difficulty; and, to complete the repair, the stair treads have been laid with concrete in conformity with the old work (Pl. VI, *c* and *d*).

The stair of the fifth structure, disclosed on the removal of a part of the sixth, was found almost intact, as I have described in my notes on the excavation of the site. The cracked and loosened parts of the stucco with which the stair and its stepped side-wall is covered have been carefully made secure, together with the damaged images in the niches outside (Pl. VII *b* and VIII *d*).

The east frontage of this fifth stupa broke forward in the centre to form a kind of projecting bay. The later hearting that had been erected over the ruins of this stupa we had cut back on to the alignment of the central projecting bay, and the clearance of the recessed wing to the south left this later hearting projecting beyond the wing some 15 inches. With a view to retaining the cut face of the hearting on a single alignment, the projecting portion of it was supported on a couple of concrete lintels (Pl. VII *a*).

The alternative would have been to cut back still further the later hearting where it projected beyond the earlier stupa, but this would have repeated the earlier projection in the later hearting and so have tended to confuse the two; whereas it was desired to differentiate them as belonging to different periods.

The several votive stupas that had been exposed around the corner tower at the N.-E. of this stupa, have also been repaired in brick to match the old work. As often as not, one half of a stupa would be found intact and the other half missing, and where this occurred the missing half has been built up again, as the most satisfactory way of preserving the remainder.

Brick-making operations.—A round lakh of bricks of the large "Gupta size", needed for the appropriate repair of the remains, were made on the site during the year at a comprehensive cost of Rs. 22 per 1,000. In addition, 40,000 smaller bricks of modern size were made for use in new underpinning work that has no part in the original structure, such underpinning being further differentiated from the old structure, where practicable, by facing the modern brick-work with a rough surfaced concrete.

730 feet run of reinforced concrete lintels 12 inches by 6 inches in section were also made; the reinforcement being contrived by embodying in both areas of the "resistence couple" galvanized iron wire netting, so that the lintels could be used equally well either side up.

The works done through the agency of the Public Works Department include the following:—

A further sum of Rs. 1,489 was spent in continuing the conservation of the Rajgir Forts that was commenced two years before against an estimate, as

revised, of Rs. 4,853, the current allotment being Rs. 1,500. A number of the lesser works of this estimate were completed in the previous year, as has been described in the last report; and in the year under review the important work of preserving the old prehistoric walls was commenced. The portions for which active measures of conservation can be taken are necessarily limited by considerations of cost and the funds at our disposal; and it is intended to concentrate on those portions of the forts that are more easily accessible to visitors and come most prominently into view, namely, a length of the New Fort immediately north of the Dak Bungalow, the low remains of the north gate of the Old Fort situated in the defile between the Ratnagiri and Vaibharagiri hills, a length of wall that zigzags up the sloping hill-side to the east about a mile further south along the defile, and the Jarasandh-ka-Baithak, believed to be the "Pippala Cave" that sheltered the Buddha himself during his sojourn at Rajgir. The work done during the year has been mainly confined to the Járasandh-ka-Baithak; the fallen corner at the N.-E. has been built up again with the heavy old boulders to conform with the character of the original work, and the terrace on top has been made watertight by laying the surface with concrete toned down to blend with the old weathered structure. A photograph of this monument taken after the repair appears in (Pl. V *d*). A brief note on the history of Rajgir has already been given in the report for the year 1924-25.

At the two old CHERO FORTS AT PALAMAU the work of rescuing the old circumvallations from the jungle was carried on from previous years. The current estimate for the work is Rs. 4,281 and it supplements a previous estimate of Rs. 3,557. The total expenditure against the current estimate amounts to Rs. 3,398, including Rs. 1,819 spent in the year under report against an allotment of Rs. 1,827. The scope of the work has already been explained in the previous report, and it will suffice to mention here that the works done this year comprise the repair of the fine old Nagpuri Gate on the south of the New Fort, where a buttress was erected to support its exposed flank, a ruined balcony was clamped and the remains were made watertight, heavy masses of débris, moreover, being cleared from the vicinity; the removal of jungle from the Raja's Kachahri inside the fort; the repair of the south-east gate of the Old Fort and of the little brick mosque inside it, where undermined walls are being built up, wide cracks filled with concrete, and leaking wall tops and parapets made watertight; and the removal of the great *pipal* trunks and roots that intertwine and penetrate the old encompassing walls. The fight against the jungle here has been a big one; for the forts are located deep in the Government Forest Reserve, and the density of the jungle that had all but obliterated the old circumvallations, would be scarcely credible. However, a margin about the walls has been cleared and will be maintained clear, and these old Mughal forts can now be circumambulated and their architectural features seen without difficulty. It is hoped to complete the work next year. A brief description of the Forts and a note on their history have been given in the report for the year 1922-23.

A sum of Rs. 725 was spent against an estimate of Rs. 733 on rebuilding a fallen portion of the revetment wall inside and to the immediate north of the East Gate of the MONGHYR FORT, the work being completed. Of the original gate itself practically nothing remains, the old structure having been dismantled some 40 years ago to make way for a modern clock-tower of quasi-German design; but the old fort is of historical interest and the better preserved portions of the original work are being conserved. The portions maintained as an ancient monument by the Archæological Department are limited to the three main gates with a short length of the wall flanking them and to the old masonry bridges over the moat in front; the modern clock-tower is, of course, excluded.

An interesting feature of the north and south gates is the existence of carved stones from an early Hindu structure that have been built into the lower walls. These gateways appear to date from the early Mughal period, when the fort was repaired by the Emperor Akbar's Hindu Viceroy, Raja Todar Mall. For a short account of the history of Monghyr the reader is referred to the report for the year 1922-23.

An estimate of the cost of conserving the old Fort at ROHTAS in the Shahabad District was framed in 1923 on the recommendations of the Archæological Department. It provided for the structural repair of Man Singh's Palace and Serai, of certain of the old Ghati gates, of the citadel Gate known as the Ghazi Darwaza, and for minor works at the other monuments on the hill top. The amount of this estimate was Rs. 30,559; but owing to shortness of funds it was not possible to provide for the work till the present year, when an allotment of Rs. 5,000[1] was made by the Government of India and an equal allotment in addition by the Bihar and Orissa Government. By then, unfortunately, the dilapidation was found to have materially increased and, to make matters worse, rates had advanced in the interval, rendering the estimate obsolete. Accordingly, the fort was inspected again and a supplementary conservation note was compiled detailing the further measures that will now be needed to render the old remains secure.

The monument that had suffered the most, since the previous conservation note was written, is the MAHAL OR PALACE (Pl. VII *f*), where several of the numerous little oriel-balconies were found to be on the point of collapse, one outside the Darbar Hall having in fact already fallen, and strewn the ground below with fragments. Where necessary, the balconies have been temporarily supported on rubble piers or wooden props; and as they are a most attractive feature of the Palace façades, indeed are often the making of them architecturally, it is proposed to render them all secure and rebuild the fallen one, re-using the old stones as far as possible. The revision of the estimate on these lines has just been completed, and, as the cost of the whole work is so large, the estimate has been split up into two, one embracing the more urgent items and the other the less urgent, the respective figures being Rs. 20,473 and Rs. 17,219. The more urgent items comprise the erection of a couple of large buttresses against the dangerously bulging western façade of the Darbar Hall, the making water-

[1] Including agency charges.

tight of roofs and parapets by relaying them with concrete, closing gaps and fissures and the like, and the preserving of the numerous oriel-balconies either by replacing broken stones by new ones or clamping across fractures in the old ones, the fallen balcony being rebuilt. The estimate of less urgent works deals largely with the internal repairs, where conditions are not aggravated by the elements and dilapidation in consequence is less progressive.

On the more pressing of the works a sum of Rs. 1,203 was spent in the year under report against the Archæological Department's allotment of Rs. 5,000. A brief account of the Rohtas Fort and its historic associations has been given in the report for the year 1922-23, which may be supplemented here by a few further remarks on the Palace Buildings.

The entrance to the PALACE is through a great quadrangular enclosure known as the Mahal Serai, containing a large gate in each of its three outer sides, the gates being connected by a continuous range of arcaded apartments, in the typical Serai manner, for the use of the retainers and troops on guard. The fourth side of the great enclosure is formed by the west front of the Palace proper, which is entered towards the south end through an embellished gate, the usual Hathi Pol of the period.

An attractive feature of this gate is the two prominent oriel-balconies that project from the upper part of the façade, flanking the central archway, where the small entrance opening is brought into scale with the gate by being inset in a larger arched recess. Below the dominating balconies are small niches containing the little stone elephants that give the gate its name. On the inner façade are inscriptions in Persian and Sanskrit recording the repair of the palace by Man Singh in 1597 A.D.

Adjoining this Hathi Gate to the north, and, like it, facing on to the Serai Court below, are what are known as the Eunuch's Quarters; and connected with these on the east rises a two-storeyed building, the Khunt Mahal, so named in recent times from the exposed pillars of a once-existing *jali* screen that enclosed the roof, an indication of its use by the Governor and possibly his ladies.

Contiguous to the Eunuch's Quarters and on the same Serai frontage is the Darbar Hall, which doubtless served as Man Singh's residence. It is an imposing piece of architecture, heavily eaved, and of somewhat ponderous proportions, the upper of its two main storeys being conspicuous for the ponderous brackets and squat piers that dominate the façade; and at the east end of the roof are accommodated little pavilions that rise for two more storeys and afford a fine view of the country around.

The remainder of this Serai frontage is taken up by the lower *dalans* that form one side of the court about the Shish Mahal, a simple square building with a high screening parapet to serve as a second storey open to the sky; this part of the palace doubtless accommodated the Zanana. An unusual feature of the Shish Mahal court is that it is not a complete square: it has been encroached upon by the Darbar Hall to the extent of one quarter; but its planning in this way permits of direct communication between the Darbar Hall and the Shish Mahal in the centre, and so facilitated access to the Zenana. Away

to the south of the Hathi Gate lies the Baradari, situated in the S.-W. corner of the palace enclosure. With its broad flat front pierced by a range of five columnar bays, its flanking balconies, high parapet-oriel and the graceful *chhatris* that rise from the roof, this is perhaps the most pleasing building in the palace. The interior is distinguished by a high central hall, with entresol chambers at the ends, and it is possible that the building served as an office. The only other building of major importance in the Palace is the Phul Mahal, notable for its colonnaded verandahs and high basement and the shallow ornamental *hauz* it contains, which lies diagonally opposite the Baradari; but south of this, again, there are the one-storeyed *Nachghar* or dancing hall, and a little *dalan* adjoining it; and still further south there is the little Hammam or Turkish Bath, and then the boundary wall that encloses the lesser buildings on this frontage and squares off the plan.

A further sum of Rs. 172, making Rs. 457 in all, was spent in completing the repair of the Barabati Fort Gateway at CUTTACK, against an estimated cost of Rs. 487, as revised. As stated in the previous report, the work involved the cutting down, piece by piece, of a great *bar* tree that grew out of the top of the gateway, its great roots penetrating and disappearing into the old fabric. This tree was removed last year; but it still remained to cut away the great roots as far as possible, cauterise the inaccessible ends in the cracks with scrub eradicator, fill these cracks and fissures with concrete and generally make the shattered old structure watertight and secure. An account of the Barabati fort and its one surviving gateway will be found in the report for 1924-25.

In 1925-26 certain repairs that had been in hand for some 3 years previously on ten of the temples at BHUVANESVAR were brought to completion, the cost being met by the Archæological Department as a special case, since the temples affected—all but one, the Raja Rani—were no longer "Protected" monuments; the notification under the Ancient Monuments Preservation Act having been withdrawn owing to irreconcilable differences of opinion between the Temple Committee and the Department as to the appropriate manner of preserving these famous old shrines. These repairs have been described in the previous reports. A small residue of repairs still remained to be done, and as these were mostly of a structural nature and essential to the safety of the temples concerned, a further estimate of Rs. 806 to meet the cost of them is being funded. A sum of Rs. 491, against a late allotment of Rs. 600, has been spent on these repairs, which embrace the resetting of displaced stones in the Ramesvara Temple, the underpinning of a ruined little subsidiary shrine in the Ananta Vasudeva Temple, treating with paraffin wax the decayed stones of the Maitresvara and Chitrakarini Temple, and lastly the replacement by plain uncarved stones, of the same buff colour as the original work, of a modern restoration in white stone done some 26 years ago in the Raja Rani temple. This modern restoration included an elaborately carved piece of the door architrave, and the effect of the white patch against the old buff masonry was incongruous: for it had remained proof against any softening influence of the weather and was as white as when first inserted. Its modern carving, too, could not bear comparison

with the old work, which it was intended to replace ; and in any case modern carving in an old structure such as this is open to serious objection from an archæological point of view ; for it is only in the old handiwork that any real interest lies. The plain new buff stone that will replace the white carving will obviate this objection and have the further advantage of being far less conspicuous.

An account of the Bhuvanesvar shrines and the local development of the Indo-Aryan architectural style that they exhibit, has been given in the report for the year 1922-23.

The monuments under maintenance have mostly been already described in previous reports. The following, however, may be mentioned here :—

Four colossal images that are preserved in the compound of the Sub-Divisional Officer's court at JAJPUR in the Cuttack District. They vary in height from about nine feet to over sixteen. One is a broken Buddhist image, probably of the Bodhisattva Padmapani, wearing tiara, earrings, necklet, girdle and garments, and showing signs of a lotus having been held in each hand. The image is locally known as Kaliyuga. Another is an image of the Hindu goddess Chamunda, portrayed in a state of extreme emaciation. She is seated on a prostrate human being in the conventional " easy posture," and wears a necklace of human skulls and ornaments of bones.

A third image is of Indrani, represented as one of the " Seven Mothers " of Hindu mythology. She, too, is shewn seated in the " easy posture," and on her left thigh she originally held a child ; she wears a high pointed crown, elaborate ornaments and a *sari*, and her *vahana*, the elephant, appears on the pedestal below her.

The fourth image represents Varahi, the earth goddess who assumed human form in order to become the wife of the Boar incarnation of Vishnu. She, again, is shewn seated in the " easy posture," with the right leg pendant and resting on a buffalo on the pedestal below. She has three eyes and three rows of curly hair and she wears ornaments and a *sari* ; her one remaining arm holds a child on her left thigh.

The Buddhist image is of sandstone and came from the village Santa Madhal, some 2 miles away : the three Hindu ones are of chlorite and were brought from the Mukti Mandapa near by.

CENTRAL PROVINCES AND BERAR.

By Mr. J. A. Page.

The work of refacing with plain ashlar masonry the ruined façades of Nadir Shah's Tomb at BURHANPUR against a much revised estimate of Rs. 12,538, has now been finished at a cost of Rs. 12,183, Rs. 42 only being spent in the year under report. All that now remains to be done is the railing of the angle-*mutakkas* from their present height at cornice level to the level of the top parapet, a distance of some four feet, in conformity with the original design. This

will be done against a separate estimate of Rs. 281. A further work here that it is hoped to take up soon, is the laying out of the walled enclosure about the tomb as a simple garden, with grass lawns and symmetrically planted trees, on "Mughal" lines. The work of repairing this tomb has been going on since 1916-17, and it is hoped that another year will see the end of it. A description of the repairs carried out here has been given in the many references to this work to be found in previous reports; and a note of the architectural features of the monument and on the 15th century Faruqi King who lies buried in it, is given in the report for 1922-23.

At Shah Nawaz Khan's Tomb, a mile away, the petty repairs that were in progress from the previous year and are described in the last report, were completed at a total cost of Rs. 270 against an estimate, as revised, of that amount. A further sum of Rs. 90 was spent against an estimate of Rs. 55 in acquiring a margin of land about the tomb, and space for a pathway between it and the original entrance gate. Previously the ground here was cultivated right up to the monument, and to prevent this the land has been acquired.

Reference is made in the last report to the groins that had been constructed in the Utaoli river-bed below this tomb with a view to resisting further erosion of the bank in the monsoon floods. These groins suffered badly in the monsoon of 1925. They were afterwards repaired, their projection being substantially reduced, and they seem to have weathered the 1926 monsoon much better; but this is possibly to be attributed to a slight change in the course of the river-flow that occurred independently of them. Some minor repairs to them, however, again became necessary, and these were done in the year under review at a cost of Rs. 563. The total expenditure incurred on these groins amounts to Rs. 3,731 against an inclusive estimate of the same figure.

A second estimate has now been sanctioned embodying the further recommendations of the Public Works Department for the protection of the river bank. This estimate, which comes to Rs. 3,366, provides for the erection of a high revetment wall of masonry beneath the corner *chhatri* of the Tomb, to take the force of the water as it rounds the bend of the river a little higher up. This expedient should certainly give more direct protection to the eroded river-bank, and it is hoped that it will prove successful.

A description of this monument, which is one of the best preserved of those at Burhanpur and very attractive architecturally, has already been given in the report for the year 1924-25, together with a note on Nawaz Khan.

In completing the repair of the Early Mughal monuments at KHIMLASSA, in the Saugor District, a further sum of Rs. 494 was spent, making a total of Rs. 1,371 against an estimate of that amount. The monuments and the repairs that have been in hand on them have already been described in the last report, as also has the Nagina Mahal in the Fort here, the repair of which was carried to completion during the year, against a separate estimate of Rs. 1,160. Rs. 500 were spent on this monument, making a total expenditure of Rs. 1,155.

Works against an estimate of Rs. 8,700 had been in hand on the FORT AT BALAPUR in the Akola District since 1922-23, as previously reported, and the

only item outstanding against this estimate was the repair of the Raja's *chhatri* here and the replacement of its fallen *chhajja*. The *chhatri* is a pleasing structure erected on the river bank a short distance from the Fort. It is raised on the remains of a solid revetment wall high above the river, and takes the form of a square twelve-columned pavilion with a columnar bay projecting from the centre of each façade. The *chhatri* is covered by a group of 5 domes, and is encompassed by a wide continuous *chhajja:* and the light columnar superstructure contrasting with the massive base below produces an effect at once graceful and imposing.

The whole structure is of red sandstone, and as great difficulty has been experienced in obtaining stone of the same kind to replace the missing portions of the *chhajja*, it has been decided not to restore this feature, but simply to make watertight the gaps in the masonry that have been left by their fall, so that the appearance of the monument will remain as it is at present. A sum of Rs. 2,000 surrendered on this account was reappropriated to fund a new estimate of Rs. 1,956 for raising slightly the new walls that had been built to repair the two fallen bastions of the Fort, against the previous estimate of Rs. 8,700. These new walls followed the curve of the old bastions and bridged the gap where they had collapsed; but with a view to economy they were not raised much more than breast high, the difference in level between the low new walls and the high ground inside the fort being negotiated by dressing back the earth behind to a natural slope and tone pitching it against erosion. (This work has been described in the report for 1922-23.)

It has now been found desirable to raise these new walls slightly, to allow the earth behind them to be raised in turn sufficiently to cover the exposed inner face of the bastion walls above, while maintaining the same natural slope; and hence the utilization of the residue on this work, on which Rs. 1,667 were spent during the year.

A further sum of Rs. 5,173, making Rs. 8,459 to-date, was spent on continuing the repair of the FORT walls at CHANDA, the 15th century city of the Gonds. The amount of the estimate is Rs. 15,839, and the scope of the repairs has been outlined in the previous report. The current allotment of Rs. 5,178 was devoted to the repair of the Bhimba gate and the rebuilding of its fallen bastion. An important work here, as with all old structures, is the making watertight of the roof and wall tops; for it was primarily the penetration of rain-water into the interior that brought about the collapse of the bastion. Waterproofing with a layer of new concrete has been done on the gate itself, but the current grant was not sufficient to permit of its being completed on the bastion also. This, however, will be done next year.

An account of the Chanda Fort and of the Gonds who founded it, has been given in the report for the year 1922-23.

On the preservation of the GAWILGARH FORT AT CHIKALDA in the Amraoti District a sum of Rs. 1,836 was spent against an estimate of Rs. 3,201, the work being still in progress. The principal items of the estimate concern the fine old Jami Masjid, which is located in one of the highest parts of this hill-fort and

is visible for many miles around. The Masjid is a splendid relic of 15th century Imad Shahi architecture, but it is unfortunately very much ruined; most of the back wall has collapsed and with it much of the adjoining roof. The missing structure is not being replaced, but the ruined remains are being secured from further dilapidation by making the broken ends watertight with concrete in the interstices and gaps. Such of the rear wall as has survived, inclines outwards noticeably, and this is being supported with a couple of buttresses.

The south end bay of the arcaded prayer-chamber had been severely disturbed by the movement of the end wall outwards, which resulted in wide cracks in the domes and in the arches that support them. The movement of the end wall had been arrested by the erection of buttresses against it some years previously; but further support was needed to the displaced voussoirs to forestall a collapse. Accordingly, these arches are being supported on a pair of tee-irons bent to the curve of the intrados and carried down the pier to the base, and the open joints of the disturbed masonry are being closed with mortar. Gaps left from the fall of the *chhajja* along the east front of the mosque are being made watertight with concrete, and the remains of the one little *chhatri* that ornaments the north end pylon are being saved from further dilapidation. This little *chhatri*, with its projecting eaves, rich brackets and *jali*-infilled sides, is unique in being the only one of its kind that has survived among the several monuments in the district that were decorated with these features originally; which makes its preservation all the more important.

In the Chhoti Masjid in the fort, a few missing brackets beneath the *chhajja* are being restored, and an accumulation of whitewash is being removed from the walls to reveal again their old weathered surface.

This little mosque is built much in the same style as the large Jami Masjid, except that the triple arches of the façade spring from octagonal columns instead of plain square piers, a difference in accord with the smaller scale of the monument and its more lavish decorative treatment. Subdued to a light arabesque relief and restricted to parapet, end pylons and the architrave framing the façade, this ornament is a tribute to the taste of the mosque builders. The original little pylon-*chhatris* have disappeared, but much of the wide *chhajja* that shaded the façade between the projecting pylons remained, and, where it was missing, the *chhajja* slabs had been replaced. It was to support this *chhajja* that the brackets mentioned above were required.

The so-called Rani Mahal—a plain solid structure with a three arched front, and a roof of vaulted bays sustained on heavy square piers—is also receiving attention, the S.-E. corner being underpinned and a large ingrowing root destroyed, and rubble infilling in the arches of the outer side-wall removed.

Certain of the old gates of the fort are also being conserved; among them the Delhi Gate, distinguished by its sculptured emblem of the Hindu Kingdom of Vijayanagar, the "Garuda-bherunda"—a fabulous dual-headed bird said to prey on elephants—which was placed on the gate by Fath-i-ullah Imadu-l-Mulk, Governor of Berar under the last of the Bahmanis, himself a converted Brahmin of Vijayanagar.

The special measures needed at this gateway were the removal of the wide disfiguring white pointing that had previously been applied to the old weather-stained masonry, and its replacement by new mortar, recessed from the face of the stones and toned down to match the old work; the removal of a great blanket of white plaster that had been spread over the ruined top of one of the flanking bastions, and the weather-proofing of this feature in a manner less distressing to the eye. Conspicuous pointing on the repaired *kanguras* of the Bara Darwaza had also to be treated in the same way. The fragmentary ruins of the second gate, as one proceeds into the fort, had to be made secure; and petty underpinning repairs and jungle clearance done to a length of better preserved wall belonging to the inner circumvallations that comes prominently into view from a turn in the path after this second gate is passed. A descriptive note on the Gawilgarh Fort and a brief account of its history have been given in the report for the year 1922-23.

The mosque at FATHEKHELDA in the Buldana District was also under repair, a sum of Rs. 1,750 against an estimate, as revised, of Rs. 1,770 having been spent on the work, which was completed during the year. The mosque is an attractive monument of the Imad Shahi style, with a simple façade of triple arches and widely spreading *chhajja* inset between slender end pylons, which are capped with ornate little *chhatris* octagonal in plan, with circular *chhajjas* and attenuated little domes. A larger dominating dome rises towards the rear of the mosque over the central bay containing the *mihrab;* and the whole structure is raised on a low podium of steps and flanking side walls. The simplicity of the façade is relieved by a crest of elaborate *kanguras* and a delicate arabesque decoration introduced along the parapet; and this light relief is repeated towards the top of the end-pylons, where it blends the ornate little *chhatris* into the plain ashlar face below. The parapet decoration is echoed in the shadow of the wide *chhajja,* and again more lightly, along the topmost step of the stylobate, merging the whole façade into a quiet harmony. It is true that the dome has no integral relation to the rest of the design; but the treatment of the façade is otherwise exceedingly happy; and it is indeed fortunate that the monument is so unusually well preserved. The mosque is contained within an enclosure with merlon-crested walls and an entrance gate in the east front. Over the gate is a Persian inscription recording the erection of the mosque in 1581 A.D.

The works done include the waterproofing of the leaking roof and domes with fine concrete and mortar in the interstices, the replacing of several *kanguras* that had previously been restored in plaster by stone ones to match the old work; petty masonry repairs to the *chhatris* as well as to the *kanguras* of the enclosure wall; the edging of broken plaster with mortar to match, and the removal of conspicuous pointing that was disfiguring the steps of the mosque; the repair of cracks in the concrete paving of the enclosure and of two masonry graves within it; and making up the eroded ground along the north wall outside to drain away the surface-water. Wooden doors of simple appropriate design were also provided to the main entrance, to the opening at the head of the high external

stair that leads up to the roof of the mosque, and again to the two openings in the west side of the enclosure wall.

Among the monuments under maintenance the following may be mentioned.

1. The ruins of the Jaina Temple known as the Bhani Deul, at ARANG in the Raipur District. The shrine has suffered considerable dilapidation; all that remains of it is the *sikhara*, and of that much of the facing has disappeared and has been replaced with plain masonry; what is left has been encircled by an iron band for its greater security. Ruined as it is, this monument is still of interest; it is similar in style to the later temples of the Indo-Aryan group at Bhuvanesvar in Orissa, and probably dates from about the 12th Century. It is in the *pancharathi* style, the façades being divided into five vertical facets, which rise from moulded base to crowning *amalaka;* and it is most elaborately ornamented with carved designs and little human figures in relief. The lower portion of the *sikhara* is encompassed by bands of undercut mouldings, which introduce a horizontal note and stabilize the dominant verticality of the design.

Between these moulded bands are a double range of little human figures, following the offsets and projections of the facets; and two little superimposed niches that elaborate the centre facet in the moulded base are echoed by another little niche above them as the facet ascends the tower, merging vertical and horizontal in a feature common to both and so harmonising the whole; an effect enhanced by the succession of diminutive applied *sikharas* that rise with the side facets up the tower.

Inside the shrine are three life-size Jaina figures of dark green stone; and the domed ceiling with its elaborately ornamented corbel-courses, and centre-piece supported by four female figures, is of remarkable beauty.

2. The Gond "keep," known as the MADAN MAHAL, AT GARHA near Jubbulpur. This is a rectangular building, relieved externally by superimposed "orders" of narrow pilasters, and curiously located on the top of a huge rounded boulder. It consists of an upper storey supported on a series of small vaults, with a courtyard attached to it. The "keep" is believed to have been erected by Madan Singh about A.D. 1100 and, though of small architectural pretensions, is of interest as commemorating the time when Garha was the capital of the Gond dynasty of Garha Mandla. The building is perched on the top of the low granite range above the town, and affords a splendid view of the country around.

3. The TOMB OF LAL KHAN AT AMNER in the Amraoti district. This is a square brick building finished in stucco. A tall dome decorated with closely set fluting rises from an octagonal drum, which intervenes between it and the square tomb below. Centrally in each of the façades is a projecting bay, over which the deeply coved cornice and its parapet rises in a large curve suggestive of the Bengali whale-back roof; and at each corner of the tomb stands a square minaret simulating a *chhatri*. In each central bay is a pointed-arched recess, and in front of the one that contains the entrance doorway there is a stone *hauz*. A stone inscription set in this entrance façade records the building of the tomb, the *hauz*, and the garden about it, by a Hindu Raja, Kishan Singh, in the service of

the Mughal Emperor Aurangzeb, to contain the remains of a Pathan named Lal Khan, who "achieved martyrdom at Badnur," though in what particular circumstances it does not relate. The tomb dates from the end of the 17th century and, though architecturally uninspired and disproportionate in its massing, is nevertheless of interest in the incipient decadence it reflects—a local phase of the degeneration that begins to affect Indian architecture in Aurangzeb's reign, and that has become progressively worse ever since.

A further sum of Rs. 985 was spent against an allotment of Rs. 1,000 on the purchase of more NOTICE BOARDS of enamelled iron to be erected at monuments in the Central Provinces that have been notified as protected under the Ancient Monuments Preservation Act VII of 1904. The notices obtained comprise 10 in English, 65 in Hindi, and 45 in Marathi; one in the vernacular prevalent in the locality will be used for each monument, English notices being provided only where they are likely to be necessary. The notices convey a warning against damage and defacement under the penal provisions of the Act.

BENGAL AND ASSAM.

By Mr. K. N. Dikshit.

During the year 1926-27 the total expenditure on conservation in BENGAL amounted to Rs. 26,029-3-3, of which Rs. 13,823-3-3, were spent on special repairs carried out departmentally and the rest through the agency of the Public Works Department. The works executed by the Public Works Department were in the nature of annual repairs and maintenance, clearance of jungle, provision of boundary pillars, fixing of notice boards, etc. The largest amount spent on special repairs through the Public Works Department was at the BABA ADAM'S MOSQUE at RAMPAL in Dacca District, where Rs. 496 were spent in providing for a supply of a special size of bricks. It is unfortunate that more progress could not be made here, notwithstanding that an allotment of Rs. 2,000 had been made for this work. The mosque, which dates from the 15th century A.D., is one of the oldest mosques in Eastern Bengal and its importance requires that it should be put in a proper state of repair as soon as practicable.

A sum of Rs. 469 was spent during the year in clearing jungle and trees from the walls of the MUGHAL FORT AT KIDDERPUR near Narayanganj, to enable proper photographs to be taken. The question of keeping this fort on the list of centrally protected monuments is engaging the attention of the Department. Rs. 357 were spent on repairs to the MOSQUE OF KHAN MUHAMMAD MIRZA at DACCA, an interesting monument of the time of Aurangzeb, built on a lofty terrace.

Of the expenditure incurred departmentally Rs. 2,432 were spent in acquiring land for the proper conservation of the LALBAGH FORT at DACCA. It will now be possible to take adequate measures for the protection of the fort walls, which were not formerly accessible at all points owing to the adjacent land being occupied by private owners.

At Sabhar in the Dacca District a sum of Rs. 1,991-8 was spent on the conservation of the mounds at Rajasan and Majidpur. The excavations carried out at these places were referred to in the annual report of the year 1925-26. This year's operations included measures to preserve the excavated portion by removing earth from the top of walls and draining off the areas surrounding the excavated buildings. The outer boundaries of the protected areas were also demarcated by banks of spoil earth taken from the excavation.

The most important conservation work in this Circle was that of the Paharpur Temple, partially excavated in 1925-26. Besides the sum of Rs. 9,399-11-3 allotted for conservation proper, the bulk of the amount set apart for exploration at this site, which amounted to Rs. 18,696, was actually spent on conservation measures. The operations of 1925-26 had been continued too late in the season to permit of the execution of proper measures of preservation before the setting in of the rains and when the monument was visited by the present Superintendent before the reopening of the work in November, most of the walls at the level of the basement had fallen or were dangerously out of plumb. The terracotta plaques which decorated the walls both at the basement and first terrace level were in many places displaced or about to fall. The arrangements for draining water away from the excavated monument were very defective and water had lodged in many places quite close to the walls. Work was commenced at the beginning of November and was continued practically without any interruption up to the end of the year. Plate IX, *a—d* shows the state of the monument before and after repairs and illustrate the amount of work done, in spite of the many handicaps, that had to be faced in this out of the way place.

For the effective conservation of this temple at Paharpur, it was necessary to examine the causes that led to its present ruinous condition. The main destructive force at work was undoubtedly the heavy rainfall of Bengal, which has a deadly effect on lofty and exposed buildings. The original height of the building must have been at least 100 feet, judging from the amount of débris that had slid down the slopes. The main shrine at the top, antechambers and *mandapas* doubtless had roofs, and the water from these was carried down to the first terrace, whence it was taken down to the basement level through stone gargoyles, fixed at the mouths of masonry drains. With the desertion of the monument, the drainage arrangements broke down, the masonry drains became choked, and earth and débris falling from the walls of the upper terraces overwhelmed the lower ones. The upper part of the basement wall has everywhere been more seriously damaged than the lower; the lowest part underneath the level of the plaques, is generally in excellent condition, having been protected by the accumulation of earth around the monument. The damage to the facing wall is almost entirely due to the lodging and percolation of water in the core, which consisted of bricks and brickbats laid in mud mortar. The method adopted for making the walls watertight and thus preventing further damage from the accumulation of water was as follows. Each of the walls forming the wings of the projecting angles

of the temple was dismantled, where it was out of plumb, and the face work was carefully rebuilt in cement mortar without allowing any mortar to appear on the surface. No attempt was made to restore the walls to their original height, but after restoring the plaques and the cornices, the courses of the walls were raised to such height as their condition justified. The hearting of the walls was strengthened with bricks in lime and *surkhi* mortar, and the gaps between the level of the verandah on the first terrace and the renewed facing work were filled with beaten concrete terracing rising in three or more steps to the desired height. With the interior thus rendered watertight, the tops of the walls were finished off with broken bricks in order to harmonize their appearance with the rest of the monument.

Much of the work in the basement and first and second terraces consisted of dismantling and rebuilding of long stretches of bulging walls. The damage was particularly heavy at the projecting. corners, which were exposed to considerable stress. Photographs of the plaques taken immediately after their excavation were available on the site, so that there could be no mistake as to their original position. Places where no plaques were found were of course left void. The floors of the first terrace verandahs were rammed and dressed where necessary, and arrangements were made by which all rain water from above converges towards certain points, where masonry drains in cement have been constructed through the thickness of the basement walls.

The risk involved in postponing the conservation of exposed structures to another season was not taken in the excavations of this season. Almost all the projecting corners of the basement wall on the East, South-East, South-West and West sides were taken in hand and repaired, as soon as ever they were excavated. The walls of the first terrace verandah on the South-West, and to some extent on the South-East, had to be put in proper order by dismantling and refixing the overhanging terracotta plaques and rebuilding dangerous face work. The images discovered in the lower part of the basement could not be kept open after the close of the excavations, as the level at which they were discovered was lower than the water level during the large part of the wet season. Split-bamboo covers have, therefore, been placed against the images, preparatory to their being reburied in earth.

For facing the masonry of the walls, old undamaged bricks were specially sorted out from the ruins and cut to the proper size and rubbed down so as to admit of very fine jointing. On the other hand, bricks and brickbats of all sizes were utilized for filling the cores of the walls. As the masons locally available were quite inadequate in number and not intelligent enough to understand the fine work that was expected of them, more than a dozen masons had to be imported from Murshidabad and were retained up to the completion of the work. The mouldings of the cornice that ran all along the basement required especial skill and exhausted a vast number of bricks. In one of the angles of the north-east sector of the basement an experiment was tried of erecting a temporary shed of corrugated iron sheets supported on *sal* wood pillars to protect the plaques, this being the method recommended by Mr.

Banerji, the late Superintendent of the Circle. It is hoped, however, that, if effective arrangements can be made for the drainage of the upper terrace and if the slopes of the basement walls can be rendered watertight and damage to the facing of the walls above made good, the safety of the plaques will be sufficiently assured without the need of such expedients. The paucity of good bricks suitable for facing brick-work is now making itself felt, and experience has shown, unfortunately, that the quality of bricks available in the neighbourhood is very unsatisfactory. The reason for this is said to be that the present day kilns, run on coal fuel, turn out bricks that cannot withstand the action of salts in the earth as well as the old bricks burnt with wood fuel, which is not now available in this locality.

The uneven area around the monument was levelled and dressed to a width of at least 50 feet on each side and open shallow drains were made at this distance for carrying off rain water. The quadrangle of low mounds forming the rampart around the main mound was cut in two places on the east and south respectively to allow the water accumulated inside the enclosure to pass through. The mouth of the eastern drain falls into the nearest hollow or *bil*, by the shortest channel, but the fall is very slight. This part of Bengal is so uniformly level that great difficulty is experienced in times of inundation, when flood water may take weeks to subside.

A temporary godown with brick and split bamboo walls and gabled corrugated roof has been built during the year for accommodating the tents, furniture and tools belonging to the office.

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Out of a total of Rs. 5,777-5-0 spent on actual conservation works in ASSAM, a sum of Rs. 3,241 was spent on repairs classed as "special", and the rest on annual repairs and maintenance. Notice boards were provided at 6 monuments, *viz.*, the Mounds or Tilas at Tulargram in Cachar and Bhatera in Sylhet, the caves at Jogighopa near the bank of the Brahmaputra river in Goalpara District, the Jaysagar temple in Sibsagar District and two other monuments in Darrang District. The FORT AT BADARPUR, which is a walled enclosure, just over a century old, was repaired during the year at a cost of Rs. 233. The jungle growth within the enclosure and on the walls was uprooted and cracks in the walls were made good. At the SIBDOLE TEMPLE at NIGRITING, some carved and ornamental stones originally brought from a temple now destroyed by the change in the course of the Brahmaputra, were built in the sloped approach to the hill on which the temple is perched. These were dug out and the better carved stones have now been arranged on either side of the steps leading to the temple and the uncarved stones relaid in the stone steps, at a cost of Rs. 511. At the BAMUNI HILL near TEZPUR, the dense growth of jungle and grass was removed and a proper approach way leading to the site of the temple group has been made at a cost of Rs. 1,123. It is now possible to inspect without difficulty the ruins of this imposing group, and it is hoped that before long the different architectural members, such as lintels. pillars, door-frames, pediments, etc., will be properly sorted out. An-

other important work near Tezpur in progress during the year was the excavation of the plinth of the TEMPLE AT DAH PARBATIYA, where Rs. 1,027 were spent. The main work here was the exposition of the walls of the brick temple of the Ahom period, built on the site of the late Gupta temple of which the door-frame and stone pillars were discovered a few years ago (*vide* p. 98 of *Annual Report* for 1924-25).

SOUTHERN CIRCLE.

By Mr. A. H. Longhurst.

From the 1st March, 1926, until the 11th March, 1927, the writer was on leave and Mr. Muhammad Hamid Kuraishi, Assistant Superintendent, Central Circle, was appointed to officiate during his absence. A total sum of Rs. 27,818 was spent on conservation out of the year's grant of Rs. 33,803. A sum of Rs. 321 was spent on repairs to the Arsenal, Belfry and Powder Magazine situated in the old fort at MASULIPATAM in the Kistna district. At the SEVEN PAGODAS in the Chingleput district, special repairs were carried out to the basement of the famous Shore Temple at a cost of Rs. 313. This temple is situated within a few yards of the sea and during the monsoon the waves break right over the base of the building, so that the break-water built around the basement has to be always kept in a good state of repair and the joints in the masonry pointed with cement from time to time. The remaining repairs at the Seven Pagodas consisted in planting trees to form avenues along the main roads and in the maintenance of the roads themselves. Repairs costing Rs. 152 were executed in the old Dutch Cemetery at PULICAT in the same district, where the tombs and compound walls were patched with plaster and rank vegetation was removed. Extensive repairs were carried out to the large group of temples, palaces and other monuments at HAMPI in the Bellary district amounting to Rs. 2,448. The chief buildings repaired were the Elephant Stables, Underground Temple, Dannaick's Palace, Zenana Buildings, and the Achutaraya, Pattabhirama, Krishna Vitthala, Raghunatha and Jaina temples. The usual repairs to several miles of roads and pathways were also executed. In the Cuddapah district, annual repairs were effected to the Parasurama temple at ATTIRALA, Kodandarama temple at VONTIMITTA, Vaidyanatha temple at PUSHPAGIRI, and the Fort and ancient buildings at SIDDHAVATTAM. Special repairs, amounting to Rs. 834, were executed to the three ruined temples at DANAYAKANKOTTAI in the Coimbatore district, and Rs. 1,790 was expended in providing iron gates, railings and a compound wall to enclose the historical ST. FRANCIS CHURCH at COCHIN. In the South Kanara district, petty repairs were undertaken to the Choutar's Palace at MUDABIDRI the picturesque Jaina Stambha at BAPPANAD, the Kathali Basti at BARKUR and the Hill Fortress at JAMALABAD. The old Danish Fort and Gateway at TRANQUEBAR in the Tanjore district were repaired at a cost of Rs. 134 and the work is still in progress. Rs. 1,799 was spent on repairs to the ancient FORT AT RANJANGUDI in the Trichinopoly district. The main items being the

removal of rank vegetation, patch plaster repairs to the buildings and ramparts and the upkeep of the roads and paths. A sum of Rs. 561 was also spent on repairs to the Valisvara Temple at VALIKONDAPURAM in the same district. At GINGEE, in the South Arcot district, repairs were effected to the roof of the Venkataramana Temple so as to make the same watertight. The parapets of the ramparts and around the Pondicherry Gateway were built up with new brickwork where necessary and the roads throughout the fort were maintained in good order. The total cost of the work, including the pay of watchmen, amounted to Rs. 2,067. Annual repairs were undertaken to the historical forts at DINDIGUL in the Madura district, SANKARIDRUG, NAMAKKAL, ATUR, RAYAKOTTAI and KRISHNAGIRI in the Salem district, and the old East India Company's fort at ANJENGO. Petty repairs were also effected to the old Portuguese Church at PORTO NOVO and the Dutch Cemeteries at TUTICORIN, NEGAPATAM and SADRAS. Similar repairs were also carried out at the Buddhist sites at JAUGADA, JAGGAYYAPETA, AMARAVATI, GUNTAPALLE and GHANTASALA.

In the province of Coorg a total sum of Rs. 798 was allotted and Rs. 430 only was spent on repairs to the walls and ramparts of the FORT AT MERCARA and to three ancient Jaina temples at MULLUR.

BURMA.

By Mons. Charles Duroiselle.

A sum of Rs. 62,180, including agency charges, was spent during the year under report on the conservation of ancient monuments and the preservation of antiquities in Burma. Out of this amount, Rs. 32,341 were expended on special works and the remainder, Rs. 29,839, on maintenance and annual repairs.

The special work undertaken by the Archæological Superintendent consisted in extemporizing at HMAWZA (Old Prome) a temporary shelter for a number of antiquarian objects which were recently unearthed there, the old shed constructed for the purpose in 1915 being found too small to contain all these objects, some of which are very large. For the execution of the remaining special works in the Province during the year the Public Works Department is mainly responsible.

At the PALACE AT MANDALAY, the work of providing a flooring of Pakhangyi stone flags was extended to the alleys between the Princess Royal's Apartments and the Chief Queen's residence, and to the spaces around the East Audience Halls; the drain on the north of the Glass Palace was provided with a reinforced concrete cover; and the Queen's Audience Hall, on the western extremity of the Palace platform, was regilt. The teak flooring on the north of the Lion Throne Room was also repaired, and some of the posts in the Queen's Audience Hall and the Princess Royal's Apartments were provided with concrete footings. The cost of the above, which amounted to Rs. 6,660, exclusive of agency charges, was paid partly out of the allotment for the unfinished portion of work in the estimate for "Construction of Gardens on the Palace platform", and partly out of that for "Special Repairs to the Palace buildings".

At an expenditure of Rs. 3,266 out of Rs. 3,288 allotted during the year for the continuation of special repairs to the *pyatthats* on the Fort walls, the ½" double teak roofing of *pyatthat* No. 18 with some of the carvings on it was renewed, and unsound portions of the pillars in the same *pyatthat*, as well as in those of No. 45, were removed and replaced by new ones.

Other works in the Mandalay division were:—the construction of a shed over the inscription stone in the compound of the TAUNGTHAMAN KYAUK-TAWGYI TEMPLE at AMARAPURA at a cost of Rs. 608 and the provision of marble slabs with epitaphs at the *Royal* TOMBS at Mandalay and Amarapura at a cost of Rs. 1,305. The stone inscription referred to, which was beginning to deteriorate under the action of the weather, gives the history of the temple, which was founded by king Pagan in 1847. To the Royal Tombs an added interest has been given by the new epitaphs, which supply, in both English and Burmese, the name of the king or queen and dates of birth, accession and death. A brief sketch, it may be remarked, of the reigns of the kings and queens whose tombs are at Amarapura, is given in last year's report, to which a reference may be made.

At PAGAN, the special repairs to the DHAMMAYAZIKA PAGODA were continued, and a sum of Rs. 12,004 was expended on it during the year. The work on the main shrine, as well as that on the subsidiary five temples on the platform, has been completed; that on the inner enclosure wall was in progress when the year closed. The original estimate, which provided for repairs to these three items and the outer enclosure wall at a cost of Rs. 37,388, has been found inadequate, and a revised estimate amounting to Rs. 43,692 has been prepared and is now awaiting sanction. At the time of the preparation of the original estimate, the *sikhara* of the main shrine and those of the subsidiary temples were to a large extent covered with débris and luxurious vegetation, and this had made it difficult to ascertain the exact nature and extent of the damage to them. Consequently, as was pointed out by the Public Works Department officer in charge, much more work has had to be done than was originally allowed for, and there has been a consequent excess of expenditure on this item of work. To allow partly for this excess expenditure and partly for the portion of work not yet completed, a sum of Rs. 8,500 has been provided in the next budget.

At a cost of Rs. 3,016, minor repairs were carried out to thirteen other monuments at Pagan. They consisted of patch plaster work, cement grouting, weeding, replacing bricks wherever missing on the main shrines, and repairs to compound walls. The condition of a portion of the retaining wall protecting, on the river side, the promontory on which the LOKANANDA PAGODA was built, has caused some anxiety. On account of the abnormal rains at the beginning of the last cold season, which have done no little damage to many of the ancient monuments at Pagan, the retaining wall referred to has shown signs of sinking, and an ominous crack on the platform of the shrine along the inner side of the same wall, was noticed. At one place, it was so close to the main

shrine that some fear was entertained as to the safety of the building. It is proposed, therefore, to rebuild the wall as well as the stone pitching with which it is protected from erosion during annual flood; and an estimate for this work has now been prepared and is awaiting funds. In the meantime an arrangement has been made for the protection of the wall by rebuilding and strengthening a portion of it at a cost of Rs. 976. The Lokananda is a stupa with an elongated dome surmounted by a finial of concentric rings in imitation of a series of diminishing umbrellas. It is one of the typical buildings erected by king Anorata (1044-1077 A.D.), and is still being used as a place of worship, being held in great veneration by the Buddhists of Burma, as the supposed depository of a replica of the tooth-relic of the Buddha Gotama.

During the year 1917-18 a fencing was erected around the remains of the East India Company's factory at HAINGGYI (Negrais Island), and a few years later, a memorial tablet giving the history of the factory was put up. This factory was built by the Company in 1753 after the one which had been erected at Syriam, near Rangoon, had been burnt down, with the idea of forming a settlement on the island, which in 1757 had been ceded in perpetuity to the British by king Alaungpaya, on condition that the British supplied military assistance to the Burmese king on payment, and gave yearly as tribute a cannon and gun powder. At that time the Burmese were at war with the Talaings, and the king, suspecting that the latter were receiving assistance from the British in arms and ammunitions, sent to Hainggyi a party of men, who, on the morning of the 6th October 1759, suddenly rushed in and treacherously murdered the inmates of the Fort while they were sitting down to breakfast. During the year under report, some repairs were carried out to the fencing and gate which had fallen into disrepair.

The monuments in the SAGAING and SHWEBO DISTRICTS and those at PEGU and OLD PROME also received due attention during the year, but the work at these places was of a minor nature, and consisted mainly in patching up plaster work, jungle clearing white-washing, and coal-tarring, and maintaining the approach roads.

RAJPUTANA AND CENTRAL INDIA.

By Mr. B. L. Dhama.

At AJMER, besides the usual annual repairs to protected monuments, the cost of which amounted to Rs. 3,381, two special undertakings were carried through during the year. One of these was the enlargement of the enclosure round the Chaukidar's quarters at ABDULLAH KHAN'S TOMB, so as to hide from view the unsightly display of his cooking and other utensils. The other was the repair of the south-west corner of the MARBLE BARADARI No. 2 on the Ana Sagar Bund. This corner had subsided in the rains of 1923, with the result that cracks appeared in the superstructure, and two pillars became out of plumb. The subsidence was attributed to the percolation of water from the Ana Sagar Lake beneath the foundations of the Baradari, due probably to the continued absence

of rains during the previous four years. To prevent further subsidence the superstructure was supported by a temporary staging, but in June 1924 some more cracks were reported to have occurred and the staging had to be strengthened. As no further movement was noticed it became necessary to consider what permanent measures should be taken to safeguard the pavilion and prevent further subsidence. The first proposal was to dismantle and rebuild the whole of the damaged corner on a reinforced concrete base. This proposal, however, was rejected on grounds both of expense and of risk, and an alternative plan was adopted of supporting the disturbed corner on a cantilever foundation consisting of a pair of reinforced concrete footings constructed in front of the corner pillars. The footings have been laid on wide reinforced concrete bases and carry cantilever beams which support the corner of the building, the fore footing near the Baradari being under compression and the rear footing under tension, so that as long as the former does not sink or the latter does not rise, the repaired corner of the Baradari will be quite safe. At the same time the out of plumb pillars have been set right and cracks and other injuries have been made good. The cost of these measures amounted to Rs. 1,820.

In the STATE OF BHOPAL, Mr. B. Ghosal, M.A., Superintendent of Archæology, continued to look after the monuments and their surroundings at SANCHI with the same zealous care as he has always shown. From Mr. Ghosal's report it appears that the Great Indian Peninsula Railway Company has recently decided to build a waiting room at the Sanchi Railway Station for the convenience of visitors to this famous site, and it is understood that the work will be taken in hand in the near future.

Besides the monuments at Sanchi there are other historical monuments of importance in the Bhopal State which are now beginning to receive attention from the Darbar. One of these is the FORT AT RAISEN, on which the Director General drew up a Memorandum for the Darbar as far back as 1916. Fortunately, there has been little change in the condition of the monuments in the twelve years that have elapsed since then and the recommendations made by Sir John Marshall still hold good and can be followed in the estimates for repair which are now to be framed.

Another magnificent monument that has been overhauled during the year and made the subject of a conservation note is the great SIVA TEMPLE AT BHOJPUR. This temple as well as the other ruins in its vicinity are so little known that they deserve more than passing mention here.

The temple, which is in a sorry state of neglect, is situated on a low rocky hill to the north-east of the great Bhojpur Lake. It is square in plan and is set on the eastern half of a lofty platform reached by a wide flight of steps from the west. Four massive and monolithic columns surmounted by flowered capitals support a circular ceiling, constructed of corbelled rings, the lowermost of which is decorated with figures of musicians and demi-gods. Beneath this canopy is a *linga* about 7½ feet in height, resting on a *yoni* some 21 feet square. The entrance to the temple, which is 15 feet in width, is flanked by male and female figures carved on either side. The figures on the extreme right and left are

those of Kubera, the god of Wealth. Alongside the entrance steps are pillared niches containing images of Siva, and other niches adorn the plinth of the platform. The three façades, namely, the north, east and south of the temple, are relieved by pillared balconies supported on brackets—all alas, in a dilapidated condition. The temple is said to have been erected during the reign of Raja Bhoja (1010-53), and is remarkable for its massive strength. Of the many ancient monuments that the State of Bhopal possesses it is certainly one of the most important.

North-east of this temple, at a distance of about ¾ of a furlong, are several ponderous but incomplete sculptures such as capitals, pillars, plinth stones, etc., lying about on the spot where they were quarried.

Evidently they were meant for another temple which was to be still larger than the existing one, but like the second *minar* at the Qutb, was abandoned. Further east, still, are the ruins of a Jaina temple containing a sanctum and an *antarala*, attributable to the same age as the great Siva Temple, though its outer façades appear to have been rebuilt at a later date. Owing to the collapse of the *sikhara* and roof the sanctum is now open to the sky. Inside it is a colossal standing image of Adinatha, about 20 feet in height, flanked on either side by images of Parsvanatha accompanied by figures of Indra.

In Chhatarpur State the work of conservation of the ancient temples of Khajuraho went on satisfactorily under the supervision of Lala Balkhandi Lal, the State Overseer. Three of the more important temples, namely, the Kandaria, Visvanatha and Lakshmanji, were provided with lightning conductors, and a variety of repairs were carried out, in accordance with the advice of the Archæological Department, to the Lakshmanji, Kakra Marh, and Devi Jagadamba temples.

The total expenditure incurred here during the year was Rs. 3,273-6-0, of which Rs. 1,915-14-0 were contributed from State funds and Rs. 1,357-8-0 from the grant made by the Government of India.

At the request of the Chhatarpur Darbar the old Chandeli temple at Neguan was also inspected by the Archæological Department and a note on its conservation was supplied to the Darbar.

At Mandu, in the Dhar State of Central India, the works on the Lal Bungalow, Champa Baoli, Hathi Mahal and Ujal Baoli have been completed, and those on the Nilkanth, Tarapur Gate, Songarh Gate and Hoshang's Tomb are in progress. At the Lal Bungalow, the task of waterproofing the roof, which was in a very leaky condition, was finished and the walls were underpinned in a number of places. This has greatly added to the stability of the building. All débris from the courtyard as well as from the compound outside has been removed and the ground levelled up. The fallen side walls of the *kund* inside the courtyard were rebuilt with dry rubble with a proper batter. This has prevented the further undermining of the other walls of the *kund* and the high compound walls close by. At the Champa Baoli, the exposed rubble vaulting of the underground chambers was made good with lime and cement concrete duly toned and the arched walls were underpinned, where necessary. The dome of

the HATHI MAHAL was overgrown with thick jungle and the roots of the trees were closely interwoven into the masonry. These have been carefully cut out and the whole dome rendered watertight both inside and out. The parapet walls at the foot of the dome have been restored and the compound levelled up and tidied. At the UJAL BAOLI, the repair of the water-raising platform and trough has been completed, the parapet wall around the *baoli* has been reconstructed and most of the silt accumulated for centuries in the *baoli* removed. On the water-lifting platform the old traces of the water-lifting arrangements, which were discovered under the débris, have been carefully preserved and the lower stairway on the west has been restored. At the NILKANTH, a tiled hut has been built for the *pujari*; the fallen retaining walls at the east and west ends of the north front have been underpinned and built up with dry coursed rubble and the terrace above strengthened, while the covered water channel running north and south under the floor has been opened, cleared of débris and renovated.

The work of dismantling and rebuilding the dangerously cracked dry stone walls at the TARAPUR GATE required especial care, and it is a matter for congratulation that it has been carried through without any hitch or accident. As recommended, the upper layers of the dry stone facing and hearting of the pylon were removed and an apron wall was built where the foundations were exposed and undermined. The task of water-proofing the top of the pylon and the fort walls is still in progress. The bastion to the north-east of the SONGARH GATE was reconstructed from the foundations upwards on the valley side and the filling up of the open jointing in the rough rubble masonry was brought to a finish. At HOSHANG'S TOMB all items of repair except the restoration of the marble lintels which is in progress, have been completed.

SECTION II: EXPLORATION AND RESEARCH

THE INDUS CULTURE.

By Sir John Marshall.

The discoveries made during the last five years at Mohenjo-daro and Harappa have evoked a world-wide interest, and innumerable questions have been addressed to me regarding them. Some of my enquirers have sought information about the structural remains unearthed or the smaller antiquities found among them; others about the extent and age and character of the "Indus" culture; others again have questioned me as to the relationship of this culture with other known cultures of the Chalcolithic epoch in Asia and Europe; and others as to the race or language or religion of the people who developed it; or as to the mode of their daily life. Many of the questions put to me can be answered but very vaguely at present; others are not yet susceptible of being answered at all. For we are still at the beginning of our labours and there is much spade-work to be done and many new sites to be explored before we can hope to find the solution of the problems before us. So far, however, as answers are possible and so far as they can be given within the compass of these few pages, I will endeavour to supply them.

Structural Remains.—The remains now laid bare at Mohenjo-daro cover an area of more than 13 acres and belong to the three latest cities on the site. The best built structures are those of the third city; the poorest of the first. All, however, are built of well burnt brick usually laid in mud, but occasionally in gypsum (plaster of Paris) mortar, with foundations and infillings of sun-dried brick. Of the various groups of buildings that have been exposed the most striking are focussed round about a lofty eminence near the north-west corner of the city, which in after times was crowned with a Buddhist stupa. Beneath this stupa there are reasons for believing that the chief temple of the city is located, and it is probable that the structures grouped around it are all of a religious or quasi-religious character. Outstanding among them is an imposing edifice containing a large bath, which may be assumed to have been used for ablution purposes in connection with the neighbouring temple. Sacred tanks have long been a familiar feature in India and it is likely that they were already in use during the Chalcolithic Age. The reservoir itself is 39 feet in length by 23 feet in breadth, and is sunk 8 feet below the floor level. On its four sides is a boldly fenestrated corridor, with a platform in front and halls or small chambers behind. The outer wall, which is more than 6 feet in thickness with a pronounced batter on the outside, was pierced by two large entrances on the south and another on the north. Of the chambers ranged along the east side of the building, the middle one is occupied by a large well, from which the bath could be fed. At either end of the bath is a descending flight of steps, with a

shallow landing at their foot. Like the bath-room floors of the private houses, the floor is laid in finely jointed brick-on-edge, and remarkable care and ingenuity has been exercised in the construction of the surrounding walls. These walls, which are nearly ten feet in thickness, are made up of three sections; the inner and outer of burnt brick, the infilling between them of sundried brick; but in order to render them completely watertight, the brickwork has been laid in gypsum mortar, and the back of the inner wall coated with an inch thick layer of bitumen. Bitumen was also used for bedding the wooden planks with which the steps were lined. The practice of employing this material as a cementing and water-proofing agent was, of course, wide-spread in Mesopotamia, but it does not therefore follow that the architects of Mohenjo-daro learnt the use of it from that quarter, since bitumen was also obtainable in the Sulaiman range as well as further west in Baluchistan. Another feature of special interest in connection with this bath is a great covered drain, over 6 feet in height and furnished with a corbelled vaulted roof, by which the water was conducted outside the city. To the south-west of the Bath and separated from it by a narrow lane, is another very solidly-built structure with battering outer walls, which comprises a series of massive square brick plinths of varying dimensions with recessed chases in their sides, and appears to have been a hot-air bath, the chases acting as flues for the distribution of heat to the superstructures above the solid plinths. The practice, which was common at Mohenjo-daro, of filling in and reconstructing old buildings at a higher level, is well exemplified in a big edifice on the opposite side of the street to the south of the Bath, which has a frontage on the north of 120 feet, and also in a number of well planned and strongly built houses to the east of the Bath, all of which are still partly concealed beneath later accretions that will need to be carefully studied and recorded before they can be removed

Apart from the above, the remains brought to light at Mohenjo-daro are for the most part private dwelling houses or shops, which tend to confirm more and more our earlier impression that the amenities of life enjoyed by the average citizen at Mohenjo-daro were far in advance of anything to be found at that time in Babylonia or on the banks of the Nile. At Ur, in Sumer, it is true, Mr. Woolley has recently unearthed a group of houses which afford a most interesting parallel with those of Mohenjo-daro and supply still another proof of a close cultural connection between Southern Mesopotamia and Sind. But even at Ur the houses are by no means equal in point of construction to those of Mohenjo-daro, nor are they provided with a system of drainage at all comparable with that found at the latter site—a system by which the sewage was carried by drains into street tanks and thence removed by scavengers.

At Harappa, which is 450 miles up-country from Mohenjo-daro, Mr. Vats' excavations have now been carried to a greater depth than previously and a number of antiquities have been recovered of an earlier type than those found at Mohenjo-daro. Among these may be mentioned a copper vessel containing a collection of copper weapons and implements, namely:—a mace-head, two double axes, seven daggers, two lance heads, sixteen spear heads, twenty-one

celts, one saw, two choppers and thirteen chisels. Two of the daggers and two of the celts bear inscriptions in the pictographic script. The same early stratum also yielded more than 150 seals and terracotta sealings, the majority of which are smaller in size and different in shape from those discovered in the upper strata. One of the most striking of these seals depicts a procession of seven men wearing kilts and helmets and marching in a line from right to left. On another is a man attacking a tiger from a *machan*, while a third portrays a man carrying a standard, the ensign on the standard (which was no doubt an object of cult worship) being an incense-burner ? identical with those which accompany many of the animals on the seals. A unique object found in this low stratum was a model in copper of a two-wheeled cart with a gabled roof and driver seated in front. This, possibly, is the oldest known example of a wheeled vehicle; older even than the stele fragment with the picture of a chariot recently found by Mr. Woolley at Ur, which in its turn antedates by a thousand years the use of the wheel in Egypt. Owing to old-time depredations most of the structural remains near the surface at Harappa are in a very fragmentary state, but there is one tolerably well preserved building that merits special notice, as it is unlike anything yet found at Mohenjo-daro. It covers an area of 168 feet from north to south by 136 from east to west and comprises a number of narrow halls and corridors, disposed in two parallel series, with a broad aisle down the middle. Its plan and the shape of the chambers recall to mind the storerooms of the Cretan palaces, and it may be that this building at Harappa was designed for a like purpose; for in the days before the introduction of a metal currency, when taxes were paid in kind and trade was done by direct barter, accommodation for the storing of merchandise on a large scale must have been indispensable.

Owing to its close connection with the Sumerian civilisation of Mesopotamia, the prehistoric civilisation revealed at Mohenjo-daro and Harappa has hitherto been designated by the name "Indo-Sumerian." With the progress of exploration, however, it has become evident that the connection with Mesopotamia was due, not to actual identity of culture, but to intimate commercial or other intercourse between the two countries. For this reason the term "Indo-Sumerian" has now been discarded, and "Indus" adopted in its place.

Chronology.—The date of the buildings described above is determined within tolerably narrow limits by the discovery at Susa and several sites in Mesopotamia of typical Indian seals inscribed with Indian pictographic legends, in positions which leave no doubt that they belonged to the period before Sargon I—that is, before about 2700 B.C. On another seal of the same pattern recently unearthed at Ur, the legend is in cuneiform characters of about 2700 B.C. It may be inferred, therefore, that this class of Indian seal is to be assigned to the first half of the 3rd millennium B.C. or earlier, and inasmuch as seals of this class are associated with the three uppermost cities at Mohenjo-daro, we may confidently fix the date of these cities between 3500 and 2500 B.C. How many centuries were covered by the erection and destruction of these cities, it is difficult to estimate. From a constructional point of view the buildings of the first city are markedly different from those of the second; and of the latter, again, from

those of the third. On the other hand, the minor antiquities found in the three strata are all but indistinguishable, which is hardly likely to have been the case, if the lapses of time between them had been very prolonged. Taking everything into consideration, a period of six centuries may reasonably be allowed for the rise and fall of the three cities, and we shall probably not be far wrong, if we provisionally assign the first city to about 2700 B.C., the second city to about 3000 B.C., and the third city to about 3300 B.C. The uppermost cities of Harappa are approximately contemporary, while the lower ones, with the more primitive types of seals and other antiquities mentioned above, are referable to an earlier period.

Agriculture.—Big cities with teeming populations like Harappa and Mohenjo-daro could never have existed save in an agricultural country which was producing its own food on a large scale. Though little has yet been discovered of the processes of agriculture and irrigation then in vogue, it is worthy of remark that the specimens of wheat found in Mohenjo-daro resemble the common variety grown in the Punjab to-day. Touching this question of agriculture it is also noteworthy that there are strong reasons for inferring (*a*) that the rainfall in Sind and the Western Punjab was then somewhat heavier than it is now; (*b*) that Sind was then watered by two large rivers instead of one, and as a consequence was at once more fertile and less subject to violent inundations. The two rivers are, of course, the Indus and the old Great Mihran—otherwise known as the Hakra or Wahindah, which once received the waters of the Sutlej and flowed well to the east of the Indus, following a course which roughly coincided with that of the Eastern Nara canal.

Food.—Besides bread and milk, the food of the Indus people appears to have included beef, mutton and pork; the flesh of tortoises, turtles and gharial; fresh fish from the Indus and dried fish imported from the sea coast. Evidence of these various articles of diet is furnished by bones—sometimes in a half burnt condition—found among the houses. For the identification of these and other bones and for much interesting information concerning them I am indebted to Major R. B. Sewell, I.M.S., and his assistants of the Zoological Department of India, to whom my grateful acknowledgments are due.

Domesticated animals.—Among the domesticated animals were :—the humped Indian long horned bull (*bos Indicus*) (of which, to judge by the frequency of the remains, large herds must have been maintained), the buffalo (*bos bubalis*), a short horned bull, the sheep, pig (*sus cristatus*), dog, horse and elephant. No trace has been found of the cat. The horse in the Indus Valley was the small *equus caballus*, near akin to the Indian country bred. Of dogs, there are two very distinct breeds; one the *canis familiaris*, closely related to the common pariah, and the other remarkably like our present day mastiff. Possibly it was some such breed as this that Alexander the Great saw in the Punjab two thousand years later, and of which Aelian remarks (IV, 19) "*If the* dog once clutches a lion, he retains his hold so tenaciously, that if one should cut off his leg with a knife, he will not let go, however severe may be the pain he suffers, till death supervening compels him."

Wild animals.—The remains of wild animals are few, but among those frequently depicted on the seal-stones are the tiger, rhinoceros and elephant, the presence of which may be taken as an indication that the climate was damper and the vegetation more dense than at present. The lion, which prefers arid and sparsely covered country, does not occur.

Weaving and dress.—Numerous spindle whorls in the débris of the houses attest the practice of spinning and weaving, and scraps of a fine woven cotton material have also been found. The Babylonian and Greek names for cotton (*sindhu* and *sindon*, respectively) have always pointed to the Indus Valley as the home of cotton growing, but there has been some doubt hitherto as to whether the cotton known to the Babylonians and Greeks was not obtained from cotton trees, *e.g.*, from the silk cotton tree (*Eriodendron anfractuosum*) rather than from the cotton plants of the genus *Gossypium*. This doubt is now set at rest by the discovery at Mohenjo-daro of true cotton of the latter kind, with the typical convoluted structure which is the peculiar characteristic of that fibre.

Male attire among the upper classes consisted of two garments: a skirt or kilt fastened round the waist, like the primitive Sumerian skirt, and a plain or patterned shawl, which was drawn over the left and under the right shoulder, so as to leave the right arm free. Men wore short beards and whiskers, with the upper lip shaven, as in Sumer. Their hair was taken back from the fore-head and coiled in a knot at the back of the head with a fillet to support it. The one and only head of a female statue that we possess shows the hair falling loose behind; but whether this was the prevailing fashion or not, is questionable. Among the lower classes, men apparently went naked, and women with a narrow loin cloth only, though there is one statuette of a dancing girl without even this garment. Ornaments, however, were freely worn by all classes alike: necklaces and finger rings by both men and women; ear-rings, bangles, girdles and anklets by the latter only.

Personal ornaments.—The ornaments of the rich were of silver and gold or copper plated with gold, of blue faience, ivory, carnelian, jadeite, and multi-color stones of various kinds. For the poor, they were mainly of shell or terra-cotta. Many examples of both kinds have been recovered. Especially striking are the girdles of carnelian and gilded copper, and some of the small objects, *e.g.*, ear-rings and "netting" needles of pure gold, the surface of which is polished to a degree that would do credit to a present day jeweller.

Metals.—Besides gold and silver, the Indus people were familiar with copper, tin and lead. Copper they used freely for weapons, implements and domestic utensils: daggers, knives, hatches, sickles, celts, chisels, vessels, figurines and personal ornaments, amulets, wire, etc. Most of these objects were wrought by hammering, but examples of cast copper are not uncommon. Copper was easily obtainable—on the west from Baluchistan, on the east from Rajputana, and on the north from Afghanistan. Tin was more difficult to get, and was probably imported from Khorasan, or through Sumer from further west. It is found, not as a pure metal, but alloyed with copper in the form of bronze, which

was used mainly for tools requiring a hard cutting edge, namely: razors chisels, celts, and saws, but also for vessels, statuettes, bangles, beads, buttons, and other ornaments. The bronze is of a high grade, containing from 6 to 12 per cent. of tin, but in spite of its advantage over copper being well recognised, the number of bronze objects is comparatively small, doubtless owing to the difficulty and cost of procuring tin.

Weapons, knives, etc.—The paucity of weapons at both Harappa and Mohenjo-daro is surprising, the only ones yet found being a few mace-heads, axes, daggers, arrow-heads and possibly spear-heads. It looks as if these cities were but little acquainted with warfare! While copper was used, and used freely, for all sorts of utensils, knives made from flakes of chert were also common, and show, like the stone maces and celts, that the influence of the neolithic age had not entirely passed away. Chert, being a particularly hard stone, was also used for burnishers as well as for weights, which followed a local Indian standard, not the Babylonian or Elamite one. Shells (*śankha*) were imported in large quantities, as they were in Sumer, from the sea-coast, to be cut up into dippers, bangles, beads, and a variety of personal ornaments, or used for inlay-work in wood. Blue encaustic faience of a kind similar to that found in Mesopotamia and Egypt, also played an important part in the making of ornaments, miniature vases, amulets and the like, while a finer and harder variety of this paste was used for finishing off the surface of seals.

Pottery.—Common domestic vessels were of earthenware. Their great variety of shapes—each evolved for some particular purpose—evidence a long period of antecedent development, though it is curious how few of the vases are provided with handles. Most of the pottery is plain undecorated red ware, but painted ware is by no means uncommon. As a rule, the designs are painted in black, on a darkish red slip and consist of geometric and foliate devices with occasional figures of animals. This red and black "Indus" ware has been found in abundance by Sir Aurel Stein in Northern Baluchistan and along the Waziristan borderland. A few specimens of polychrome decoration in red, white and black have also been met with at Mohenjo-daro. Some of the ceramic shapes and ornamental patterns both at this site and at Harappa betoken a connection with Elam and Mesopotamia as well as with Baluchistan.

Writing.—The presence of inscribed seals, sealings and other objects in almost every building is sufficient indication that the occupants must have been familiar with the art of writing, and it may be inferred that it was employed for business and other purposes, though what materials took the place of the clay commonly used for writing on in Mesopotamia, is not known. It may have been wood or some bark akin to birch or to the Egyptian papyrus, which came into use at a very early date.

Inscribed seals.—The seals, of which nearly a thousand have been recovered, were worn by a cord round the neck or wrist. Whether they were used for sealing parcels, merchandise, etc., as they were used in historical times in India, is doubtful, as relatively few sealings have been found. It is more likely that they served as amulets, and that the animals engraved on them had a

religious significance. The pictographic legends on them, or, rather, on the impressions taken from them are to be read, apparently, from right to left or *boustrophedon*. A small proportion of the letters resemble early Sumerian signs, but there is no evidence to show that they had the same phonetic values or that the languages of the two countries were related.

Art.—The art of the Indus is distinct from that of any neighbouring country, notwithstanding the elements in common between them. The best of the figures on the engraved seals—notably the humped Indian bulls and short-horn cattle—are distinguished by a breadth of treatment and a feeling for line and form unequalled in the contemporary glyptic art of Elam or Mesopotamia or Egypt. The modelling, too, in faience of the miniature rams, monkeys, dogs and squirrels is of a very high order—far in advance of what we should expect in the 4th and 3rd millenniums B.C. Compared with these, the few examples we possess of human figures, whether executed in marble, stone, clay or bronze, are disappointing, and suggest that for some reason or other the artists could have had relatively little experience in delineating the human form. The best that can be said in favour of these statues is that they manage to convey an impression—crude though it often be—of individual portraiture.[1]

Disposal of the dead.—Two large groups of skeletons have been found in Mohenjo-daro? one group inside a house, the other in a street. All of these, however, appear to have been the victims of some tragedy—murder perhaps or pestilence—and afford no evidence as to how the dead were ordinarily disposed of. Only one indisputable example of inhumation during the Chalcolithic Age has been found at Mohenjo-daro. This is a "fractional" burial of the same type as those found at Nal in Baluchistan and at Musyan in Western Persia, the distinctive feature of such burial being that only a fraction of the skeleton was buried together with an assortment of earthenware vases and other small objects personal to the dead—the corpse having been either exposed to the vultures or (which is less likely) subjected to a previous burial. Whether such fractional burials were the exception or the rule among the Indus people, has yet to be determined. That cremation was also practised, seems indicated by the presence at Harappa of small brick structures somewhat like Hindu *samadhis*, containing cinerary remains, as well as of a platform partially covered with ashes and half-charred bones, which is thought to be a cremation platform. There are good reasons also for believing, though the evidence is by no means conclusive, that a certain class of store jars containing a variety of smaller vessels, with traces—in some cases—of ash and bone, also served both at Mohenjo-daro and Harappa as cinerary urns or to contain offerings to the dead. This belief has recently been strengthened by the discovery of similar jars on prehistoric sites in northern Baluchistan, in which the presence of incinerated bones along with the smaller vessels is indisputable.

Races.—Of what race or races were the authors of this Indus culture? In the present state of our knowledge only the vaguest answer to this question can be returned. As might have been expected, nearly all the skeletal remains

[1] Since this was written two superbly modelled statuettes of stone have been found at Harappa.

found at Mohenjo-daro appertain to a dolicho-cephalic people, who may reasonably be assumed to have belonged to the great long-headed race of Southern Asia and Europe to which the name of "Mediterranean" is commonly applied but which besides the Mediterraneans comprised also the pre-Aryan Dravidians of India as well as many other peoples. The only skull approximating to a brachy-cephalic type is from the fractional burial described above, and this appears to exhibit the same racial characteristics as the steatite statue from Mohenjo-daro, which pronouncedly brachy-cephalic. Although these skeletal remains from Mohenjo-daro are of the Chalcolithic period and may be taken to be illustrative of the population of Sind during that period, they are, to judge by the level at which they were found, posterior to the abandonment of the latest city. In any case, however, the data that they supply are too scanty to admit of any reliable conclusions being drawn from them.

Religion.—The main features of the Indus religion as revealed up to the present at Mohenjo-daro and Harappa are:—the worship of a Mother Goddess, and, side by side with her, of a male god, who is identifiable with the historic Siva; the worship of animals both real and fabulous and of therio-anthropic creatures, as well as belief in the Nagas, who appear in half-human, half-snake form, as they do in early Buddhist art; the worship of trees in their natural state or personified as divinities like the later Yakshis; the worship of baetylic and phallic stones, including the *linga* and *yoni;* chrematheism as represented by the worship of ritual incense-burners; and the use of magic amulets or charms. All these features are distinctive of later Hinduism—or rather of that side of Hinduism which is derived from the pre-Aryan peoples of India. Of the deification of such forces and phenomena of Nature as the Sky, the Clouds, the Wind, the Sun, the Dawn; of the worship of Fire and Soma; or of other features which can be directly attributed to a Vedic origin, there is no trace at Mohenjo-daro or Harappa.

That there were some elements in common between the religions of the Indus and Mesopotamia may be inferred from such figures as those of the horned and leaf-clad hunter who cannot fail to recall the Sumerian hero Gilgamesh, or of the semi-human, semi-bovine creature, sometimes fighting with a tiger, who closely resembles his companion Eabani. Then, there are the buffalo's or bison's horns worn as emblems of divinity; and on one of the sealings two lions officiating as genii at a sacrifice, much like the ministrant animals so frequently represented in Sumerian and Minoan Art. All these may be due to direct borrowing by the one country from the other, but which was the debtor which the creditor, there is no sufficient evidence at present to prove, though in the absence of evidence to the contrary it is natural to suppose that the types of Gilgamesh and Eabani at any rate emanated from the country where they afterwards became so popular. It is reasonable, too, to suppose that there may be a closer connexion between the Indian and Western Asiatic cults of the Mother Goddess than that arising out of a mere similarity of social (*i.e.*, matriarchal) conditions; but it would be very rash to assume that this

particular form of worship necessarily spread from west to east rather than in a reverse direction; for of all cults, this is the one most ubiquitous and deeply-rooted in the soil of India and—what is more—it is specially characteristic of those tribes or peoples who have most claim to be regarded in India as aboriginal. This last observation applies also to Indian Saktism, to which the closest parallels exist in Western Asia, Mesopotamia and round the shores of the Aegean; but in this case the cult is of so peculiarly distinctive a character, that it is scarcely credible that it could have been independently evolved in different areas. The probability is that some of these common features go back to a remote period—more remote even than the Sumerian occupation of Mesopotamia—when the civilization of the Near and Middle East was more integral and homogeneous than has hitherto been supposed. Be this, however, as it may, there can be no question that most of the elements found at Mohenjo-daro and Harappa are characteristically Indian and that they carry back the story of Hinduism to an age before the coming of the Aryans, thus disposing of the commonly accepted view that these elements represent a popular form of worship evolved by the Indo-Aryans themselves—a parallel growth, as it were, to the Vedic religion, but one which being of the masses, not of the elect, found no place in the sacred books of the Vedas.

Extent of culture.—That the Indus civilisation described above extended over much of Baluchistan as well as over Sind and the Punjab has now been established; and there is evidence to show that it extended eastward over Cutch and Kathiawar towards the Dekhan. Whether it embraced Rajputana and Hindustan and the valley of the Ganges, remains to be proved. Neolithic and copper implements have been found over most of Northern India, and it is almost a foregone conclusion that this great civilisation of the Indus must have made itself felt far to the east as well as to the west, though it is hardly probable that contemporary civilisation on the banks of the Ganges (of the existence of which the writer entertains no doubt) will prove to be of precisely the same character as that on the banks of the Indus. Whatever the extent, however, of the Indus civilisation within India itself, there is no question that it formed part and parcel of the wide flung Chalcolithic culture of Asia and Europe, which extended from the Adriatic to Japan but was focussed primarily in the great river valleys of the South: of the Nile, the Euphrates, the Tigris, the Karun, the Helmund, and the Indus. This is an important point to have established; for it means that India came within the same cycle of culture as the rest of Asia; that she passed step by step through the same phases of development as her neighbours on the West; and that, so far as the later phases are concerned, she passed through them at approximately the same time, though whether at an earlier epoch she followed or took the lead of her neighbours, is still a debateable point.

So far as Mesopotamia is concerned, it is abundantly evident that there was much in common between the civilisations of the Indus and Sumer and Babylonia, and that there must have been close intercommunication between the two countries, maintained partly by sea and partly by land across Sistan and

Persia. On the other hand, it is equally evident that the points of difference between these civilisations are more numerous and striking than the points of similarity and, though there may ultimately prove to have been a racial and even a linguistic connection between the two peoples, at present there is no proof of them. If such a connection did exist, it must go back to an age much anterior to the one with which we are dealing, since the contrasts which distinguish the Indus and Sumerian civilisations could only have resulted from many long centuries of independent existence. Similarly, connections more or less close can be traced with Sistan and Transcaspia, Western Persia (in the proto-Elamite period) and, still further afield, with Egypt. Much spadework, however, is required before we can determine in what relation these countries stood, and the debts which they owed, one to another, for their culture. The opinion has lately been gaining ground that the cradle of Sumerian and Egyptian civilisation is to be sought somewhere east of Mesopotamia. If, indeed, such a cradle ever existed, it is as likely as not to have been in the vast, richly-watered plains of Northern India. Migrations there undoubtedly were—and those on a large scale: and nothing is more probable than that the teeming populations of Northern India expanded westward through Sistan across the Iranian plateau and northward to the plains of Transcaspia. But the picture of this Chalcolithic civilisation being cradled in one particular area and spreading thence from country to country is not one that can be squared with facts. A more reasonable supposition, in the opinion of the writer, is that no one country can be regarded as the home of this civilisation, but that each and all contributed in varying degrees to the common stock of culture, new ideas being disseminated from one to another, not only through the movements *en masse* of tribes and peoples, but as a result of commercial and other intercourse, which was undoubtedly going on almost from time immemorial.

MOHENJO-DARO.

By Rai Bahadur Daya Ram Sahni.

Owing to the absence on leave of Sir John Marshall, I was deputed to continue the exploration of the ancient mounds at Mohenjo-daro during the cold weather of 1926-27. The excavations lasted from the 17th November, 1926, to the 8th March, 1927, and thereafter I remained at the site until the close of May, 1927, in order to clear up and complete my notes on the work. Mr. Ernest Mackay, who had recently been recruited from Mesopotamia, arrived at Mohenjo-daro on the 26th November and for about a week assisted me on the Hr. site, after which I placed him in charge of the separate area south of the Stupa mound. A resumé of his operations on this mound is appended below.

Besides Mr. Mackay, I had the assistance at my excavations of Mr. B. L. Dhama, Assistant Superintendent, Archæological Survey, Central India and Rajputana Circle, two of the Archæological Scholars, Messrs. Q. M. Moneer, B.A., and H. L. Srivastava, M.A., and an Excavation Assistant, Mr. K. N. Puri.

Mr. N. G. Majumdar, M. A., Curator of the Varendra Research Society's Museum at Rajshahi, who had assisted in Sir John Marshall's excavations during the previous season, was also present as well as Mr. Panchanan Mitra, M.A., Lecturer of the Calcutta University. To all these gentlemen I am indebted for much valuable help.

The total expenditure incurred at Mohenjo-daro during the year amounted to Rs. 60,152. Out of this amount a sum of some nine thousand rupees had already been utilised, before my arrival, on the maintenance of the buildings previously exposed as well as on the Museum and the temporary staffs attached to them. Another sum of Rs. 8,000 was devoted to the purchase of glazed wall-cases for the Museum, so that the actual expenditure on the excavations amounted to about 43,000 rupees.

The excavations in Hr. and Vs. areas embraced a large plot, 450 feet long by 400 feet wide (Section B; Plates X and XI, *a*), in the western portion of the mound Hr. a part of which (Section A) including a portion of the broad street had been explored with much success by Mr. Hargreaves in the preceding year, and the southern portion of the Vs. area, where extensive excavations had been carried out during the same season by Mr. Vats. Trial shafts and trenches sunk by Sir John Marshall vertically through the mounds at Mohenjo-daro had revealed the existence of at least six strata of buildings superimposed one above the other, the earliest of which lay at a depth of some thirty feet beneath the present level of the surrounding plain. My own operations nowhere penetrated to a greater depth than twenty-two or twenty-three feet, and were concerned chiefly with the three latest periods of occupation. In the following paragraphs these three periods will be designated as the First, Second and Third periods. Remains of earlier structures than those referred to were struck at one or two spots only and these will be noticed in their proper places.

In the Hr. Area, my excavations exposed some sixty-six buildings in the western portion and six in the eastern portion, which had been left unexcavated by Mr. Hargreaves in the strip bordering the broad street. The buildings in Section B are divided by a number of streets, and lanes into nine well-defined Blocks, numbered 1 to 9 in large Arabic numerals in the accompanying plan. Houses are distinguished by Roman numerals and rooms by small Arabic figures. For convenience of reference, separate serials have been employed for numbering the rooms in each separate Block. The structures to the east of Street 1, and those brought to light on the south side of the Vs. Area have been numbered in the same manner.

The majority of the newly exposed buildings in the Hr. Area belong to the Second period; those pertaining to the Third period are portions of houses Nos. V, IX and X of Block 2, the front portion of house No. XIV of Block 3, houses Nos. XXIII and XXX of Block 5 and portions of a few others. House No. XXX would appear to have been an underground dwelling (*tahkhana*), to which the inmates resorted to escape the oppressive heat of summer. Very scanty remains of the buildings of the First Period have survived. They were constructed in a coarse style with materials obtained from the earlier structures and

had long since decayed or disappeared. The buildings of the Third Period were the best of all. They had spacious rooms, thick walls with fine joints, and high roofs and doorways. The buildings of the Second period are generally found to be erected on the walls of their predecessors, the interior plan of the latter being as far as possible retained. These buildings were in a thickly populated quarter of the ancient city and are mostly dwelling houses. As might be expected, the shops are less numerous than the private houses. Two long lines of them are built on both sides of Street 3. No. XVII in Block 3 is a somewhat unusual structure and may have been a temple of some sort, though this is nothing more than a surmise.

The dwelling houses bear a striking resemblance to those brought to light last year by Mr. Woolley at Ur in Southern Mesopotamia and described in an illustrated article in the *Antiquaries Journal* for October, 1927. Mr. Woolley's excavations thus provide another important cultural connection between Sind and Sumer. As at Ur, the houses at Mohenjo-daro consist in many cases of an open court with ranges of chambers grouped around or on three sides of it. The Indian examples, however, are superior both in material and style of construction. The walls at Mohenjo-daro are built throughout, from top to bottom, of well burnt bricks of regular dimensions. At Ur burnt brick is used only sparingly or up to the height of a few feet above the floor, and even then the core is made of brick rubble. The rest of the walling is built of crude bricks.

At both places, mud was the usual mortar,—bitumen or gypsum being used only sparingly. At Ur, mud was also used for the plastering of walls which were also whitewashed. There were few indications of such mud plaster at Mohenjo-daro. It is all the more surprising, therefore, that the walls have survived here in as good condition as they have, despite the abundance of saltpetre in the soil.

Each house has one or two entrances opening into the adjoining street. Some of the entrances are preceded by low platforms to serve as door steps. House No. LVI has as many as three entrances on the street front. Some of the houses at the junctions of lanes have entrances opening into both streets. The principal doors of houses generally open into small entrance chambers which sometimes contain wells, as in houses II and VI. The staircase is also occasionally placed in a corner of the same chamber. It is noteworthy that, in spite of the great skill in building construction exhibited at Mohenjo-daro, its ancient artificers must have been poor designers of staircases, just as they were at Ur; for though built of good material, they have steep and shallow treads which could only be climbed on the tips of toes or sideways. Mr. Woolley states that the low-ceilinged chambers beneath the staircases at Ur were used as lavatories. The same may have been the case in some of the houses at Mohenjo-daro as well, as I found that the little cells under the staircases in houses VI and LIII were provided with drains. Two regular privies with well-designed tops were found in house XLIX. They have paved floors in front for ablution purposes, and openings in the wall behind through which they could be cleaned.

The courtyards of houses at Ur are paved with brick and provided in the middle with soak-wells made of terracotta pipes so as to enable the water to run off into the lower soil. Such soak-wells composed either of stone or of large earthen jars with their bottoms knocked through and superimposed one upon another have been brought to light by Sir John Marshall in the Bhir Mound at Taxila. The contrivance, however, must necessarily have been an insanitary one and has not so far been noticed anywhere at Mohenjo-daro, where the houses have their own surface drains communicating with the streets where brick-lined pits or large earthen jars were provided to receive the sewage, which was cleared by scavengers.

Many of the houses have their own baths, which are readily distinguished by their neatly paved floors and drains. The most spacious apartment of this kind is that in house No. XVIII which has a well sunk in one of its corners, from which water could be drawn from within the room. In the majority of houses, however, only paved floors are provided for bathing on. Ordinarily the kitchens also must have been on the ground floor. That in house VI was filled with ashes, but the fireplace had disappeared. A well-preserved hearth has survived in good condition in house No. XXIII; and a commodious kitchen combined with a store room came to light in the southern portion of the Vs. Area. Both chambers are paved with brick and there are a number of conical basins provided in the floor of the storeroom, as if to hold the pointed bases of large storage jars. Other rooms around the courtyards doubtless served as sleeping rooms, etc. All have earthen floors, and comparatively few of them have windows. The existence of windows or screen ventilators in the upper portions of walls was attested by fragments of open-work of alabaster (Vs. 2540) found by Mr. Vats in the Vs. Area. Another feature frequently met with is the presence of tall, broad niches sunk in the walls. Some of them appear to have been lined with wooden boards. In some of the houses the women's apartments appear to be separate from the men's. Such are Nos. VI, LIV and LXVI.

That the rooms were fairly lofty, is evidenced by the holes for beam-ends that are still visible in room No. 49 of house V and rooms Nos. 85 and 86 of house IX. The use of wooden thresholds in the doorways is indicated by marks for their reception in the brickwork of the jambs.

Socket-holes, however, for the door tenons were rarely met with. I found one fashioned out of a burnt brick in the débris which filled room No. 22 of house XV in Block 3 and another *in situ* in the south-west corner of room No. 31 in house No. VI in Block 2. No indications are yet forthcoming as to how the doors were closed and opened as no fastenings or locks have been found. It is possible that, as in Egypt, wooden bolts and holders were employed for this purpose.

In one essential the houses at Mohenjo-daro differ from those at Ur. Mr. Woolley tells us that at the latter place, some of the houses explored by him had a private chapel containing a family burial vault, and that where such separate rooms were not provided, the dead might be buried under the floor of any room,

while the rest of the family continued to live in them. Mr. Pumpelly also found burials within dwellings at Anau in Turkestan. No such chapels or burials have been found in any of the houses at Mohenjo-daro, with the exception, perhaps, of one single burial brought to light by Mr. Hargreaves in the eastern section of Hr. Area, which consisted of a skull and certain other bones.[1] The skeletons found in room No. 74 in house V in Block 2 of Section B and those disclosed by Mr. Vats's excavations in Vs. Area, are not regular burials, but the results of accidents or tragedies.

That many of the houses had upper storeys, is patent from the exceptional thickness of their walls, which would have been unnecessary in single-storeyed structures, as well as from the fact that in one or two cases, the walls are still standing several feet above the level of the ground floor ceiling. The presence of brick staircases in most of the houses clearly points to the same conclusion. Where there are no staircases, wooden ladders must have been used for ascending to the upper storey, and it must be assumed that access to the various rooms above was obtained by wooden galleries which have since perished. Such galleries are commonly seen in modern houses in India, and may well have been in vogue at Mohenjo-daro. It is also a possibility that the upper storey was restricted to the corner rooms or at any rate that it did not extend over the whole of the ground floor.

As regards construction we observe at Mohenjo-daro the total absence of the real or voussoir arch; whatever arches have so far been brought to light are built on the corbel system. Verandahs and other parts of buildings were occasionally supported on brick-built pillars and pilasters. No stone pillars have yet been found at Mohenjo-daro; the two voluted capitals in this material, which I found in room No. 49 in House V, may therefore have belonged to wooden columns. It is also noteworthy that, while in some cases walls have foundations of hard black burnt nodules, others rest directly on the natural soil.

There must have been many kilns for burning brick at Mohenjo-daro. Two or three large mounds to the south-east of the Hr. Area, which are thickly strewn over with nodules of the kind referred to above, may turn out to be kilns. I found what appears to have been a small pottery furnace in room No. 17 in house No. VII and recognized another one of the same shape among the previously excavated buildings in Vs. Area.

The ancient inhabitants of Mohenjo-daro had a special partiality for wells and built them admirably. In the Hr. Area alone, I exposed as many as twenty-one wells. They are, one and all, constructed with wedge-shaped bricks and have survived in very good condition. Water was drawn without the intervention of windlasses or pulleys, as shown by deep grooves caused in the steaning walls by the friction of ropes. It would be interesting to find out what kind of curbs are used underneath the steaning. They will most probably be found to be made of wood.

[1] This burial, however, appears to be of somewhat later date than the occupation of the house.

The portable antiquities recovered from the Hr. Area included some 120 seals and sealings of white steatite, copper, faience and terracotta, copper tools and weapons such as spearheads, arrow heads, celts and chisels, one or two well preserved fish-hooks, a mass of copper buttons, copper vessels, many bangles of the same material, a copper statuette of a dancing girl, many terracotta, faience, etc., figurines, shell ornaments, pottery vessels of different shapes and sizes, stone weights, etc. It is noteworthy that though wheat has been found both at Harappa and Mohenjo-daro, no querns or hand-mills have anywhere been found. Is it possible that it was ground on the curry stones which are abundant?

Room 49 in house V in Block 2, Section B, yielded some eighteen large-sized round rings of limestone from the Sukkur quarries. They differ from those previously found both at Mohenjo-daro and Harappa in that most of them have grooves cut across their central holes. But for what purpose these rings were used still remains a mystery. A well preserved skull of a young female was found in the same room, but no burials or complete skeletons were found in the course of my excavations.

The most interesting find of the year was, however, a collection of gold, silver and stone jewellery (Hr. 4212*a*), which I made in room No. 8 of house VIII in Block 2. The hoard included a seal (Hr. No. 4212*a*) bearing a pictographic legend like others found at Mohenjo-daro and Harappa, a copper vase containing copper celts and chisels and two silver vases which must have been used for the storage of the jewels. Some of the jewels were still adhering inside one of them. Both of these vases had been wrapped in woven cloth (Plate XII, *a*) and I succeeded in separating from them fragments large enough for examination. Mr. Turner, Director of the Technological Research Laboratory, Indian Central Cotton Committee, Bombay, who has examined them, has shown them to be true cotton with the typical convoluted structure which is the peculiar characteristic of that fibre.[1]

When cotton cloth first came into use and whether it continued to be worn right through to the historic period, is as yet uncertain. The Vedic literature from the Ṛigveda down to the Sūtra period contains numerous references to weavers, the art of weaving, the weaver's shuttle, wearing of clothes like turbans, shirts, etc., soiled garments and washermen. But whereas wool (*śāmulya*) and silk (*tārpya*) are mentioned, cotton (*karpāsa*) is unknown from early texts.

Street I.

As indicated above, this must have been one of the main streets of this ancient city. It is flanked on both sides by buildings of special solidity. Two lanes communicate with it from the west and three or possibly four from the opposite side. Its northern portion, 145′ in length, had been exposed down to the second level (*i.e.*, to the depth of 173·2′ above the mean sea-level) in 1925-26. The rest of it, making a total length of 470′ from the north to the south

[1] *Cf.* p. 55 above.

extremity of the Hr. Area, has now been completely explored to the level of the third city (164·2′ above the mean sea-level). My excavations have also established the continuation of this street across the cart road from Dokri on to the Vs. Area. It has thus been traced over a length of some 900 feet, and future excavations may show it to extend further north. The street is not paved with brick or concrete anywhere and the only drain brought to light at the third level is one starting from the south-east corner of house V in Block 2, which has been traced over a distance of 60′ up to the mouth of Lane 2. A little south of this point another well constructed drain was exposed for a considerable length. It has a slightly different alignment from the previous one and slightly higher bed, but both may well belong together. In the second period, the level of the street had risen by several feet consequent on the rise of level on the east and west; its position on this higher level is clearly determined by two large brick-lined reservoirs connected by a surface channel, 63′ in length. The channel slopes from the northern to the southern pit. There is no other pit of this kind further south, but that at least one other lies buried, to the north is evidenced by a drain which falls into the northern reservoir from that direction. The surface drain between the pits, referred to above, served merely to carry off the surplus overflow water from the northern to the southern pit; what happened to it after that, is not yet determined; nor is it apparent how the water was cleared from within the pits. Perhaps it was cleared with buckets and carted away to the fields on the south.

A large number of portable antiquities were recovered from this street. They included several amulets of copper, with the usual pictographic legend and animal devices, beads and spear and arrow heads. A large stone ring (Hr. 2868) and a cone of the same material (Hr. 2783) were found 2′ to 3′ below the surface and must date from the first or second period. To the same period must be attributed an interesting terracotta (Hr. 6213) showing a female lying on a bed with her baby at her breast.

Block 1.

This block of buildings is bounded on the east by Street 1 and on the south by Lane 1. Remains of four separate dwellings of the second period are traceable here, but none of them could be completely explored on account of the chaukidar's hut which occupies part of this area. Of house I, three rooms have so far been exposed, one of which (No. 3) is paved with a floor of burnt bricks laid on end, upon another course of bricks laid flat and resting on a layer of hard broken brick. The adjoining room contains a well which was only cleared down to a depth of about 9′. The dwelling was entered from the east where a brick platform still exists to give access to the doorway. Several chert flakes and pottery and ivory objects were found in this house. A necklace spacer of copper (Hr. 3499) was found in room No. 3.

House No. II contained a well-built and well-preserved well surrounded by a brick floor in room No. 7. The well was completely cleared out, water being reached at the depth of some 40′ below the top of the steening, *i.e.*, at a

level of 141·9′ above the mean sea-level. The objects found in the well included two bangles of copper, another of faience and a lapis lazuli bead. A small square channel in the south-east corner of the room conducted waste water into the drain in the adjacent lane (Lane 1).

House No. III, alongside house No. II, is also entered from Lane 1. The only noteworthy feature about it is a well constructed water chute in the front wall of room No. 9. Unlike the three houses noticed above, House IV appears to date from the first period. It is bounded on the south and west by a thick wall which has a six inch thick foundation of broken brick, but the rest of the structure has completely vanished.

Block 2.

Block 2 is the largest and most imposing single group of buildings brought to light last season. It occupies a prominent position with a frontage of some 250′ along Street 1, and contains 136 rooms. A small portion of this block along the east side had been explored by Mr. Hargreaves, when he found in room No. 74 the human skeletons referred to above. The whole of this block appears to have been constructed in the third period. Only the middle portion comprising houses Nos. V and IX in the plan has, however, been more or less completely cleared to its original level. The rest of the buildings included in this Block appear to have been remodelled and redivided into separate dwellings in the second period. These are Nos. VI to VIII on the north and Nos. X to XIV on the south side.

House V.—The limits of this house on the north, west and south sides are not clearly ascertainable. I have tentatively assigned to it some 35 apartments including what appears to have been a spacious courtyard (No. 70) with a single row of small-sized rooms on the south and a double row of rooms on the east and two large rooms (54 and 49) with several others to the north. The large courtyard (70) averages 57 feet long by 43 feet wide and was filled with sun-dried bricks laid in regular courses. This infilling was cut away for several feet, but as no results of any interest were obtained, further excavation was abandoned. The exact nature of No. 70 is not yet apparent. The inner faces of its walls are somewhat roughly constructed, and there is a row of five brick-built piers attached to the back wall, each shorter than the one following it. They cannot have supported a staircase or balcony, for in that case they would not have been of different lengths. On the west side, this back wall was cleared down to a depth of some 16′ below its top. The walls of rooms 59 and 60 are also standing to similar heights and it was in the latter rooms as well as in the southern portion of room 46 that remains of the fourth stratum were brought to light. The drain running through rooms 82 to 84 to the south of the large courtyard was laid in the second period. At the end of room 82, the drain turns south into house X and then falls into the drain of Lane 2.

Room No. 54, which is separated from the big courtyard by a well-preserved narrow passage, was filled with earth and brick débris, the clearance of which disclosed a sun-dried brick wall running across the room from west to east.

Its average height is three feet and it may have carried one or two wooden columns to support the roof above. By the side of the middle and wide portion of this wall were lying a number of roughly fashioned terracotta cones and a carrot-shaped pin of the same material.

This room communicated with its neighbour (No. 49) by a narrow but tall entrance with a corbelled head which was bricked up in old days and has remained closed ever since. The main entrance to room No. 49 was, however, from the east. This room measures 44′ 4″ long by 10 to 11 feet wide, none of the corners being accurate right angles. It was cleared to its original floor level, which stands at 167·6′ above the mean sea level, and its walls are standing to a height of some 17 feet. The level of the ceiling is determined by lines of beam holes which occur at the height of 10′ 6″ above the floor level. The upper portions of the walls belonged to the second storey and are relieved by deep broad recesses.'

Many interesting objects were recovered from this room. They included, as stated above, some eighteen round stone rings of large size Hr. (5923-5933, 5936-5942) which were piled up along the north wall at a depth of from 2 to 6 feet below the surface (Plate XIII, *a* and XIV, *a*), *i.e.*, at the level of the upper storey which was restored to use in the second period. All are accurately rounded as if they had been turned on the lathe. Their height varies from 9 to 10 inches. They are all perforated in the middle with holes (diam. 4½″ to 9″), which in some cases were drilled from both sides. These rings differ from those found in previous seasons in that some of them have a narrow hole neatly sunk on either side of the large hole in the centre, while others have grooves for metal clamps in the top and the bottom, while others again are further decorated with lines of tiny cupmarks. The nature of these rings still remains undetermined. By the side of these rings were lying two round stone caps (Hr. 5935 and 5939; Plate XIV, *a*) with rounded tops which were originally mortised to shafts, thus resembling the socalled chessmen of different sizes and materials found both at Mohenjo-daro and Harappa. Sir John Marshall has suggested that these chessmen—like figures and pierced rings were intended to represent the *linga* and *yoni*, and this view has found some corroboration from more naturalistic *lingas* found by Sir Aurel Stein during his recent expedition in Baluchistan.

Two or three square stone capitals (Hr. 5934; Plate XIV, *a*) with spiral volutes resembling Ionic capitals were also found in this room and another in the room in front of it (No. 50). A miniature bust of a monkey (Hr. 6104) of white faience, coloured yellow, was also picked up in the south-west corner of room 49 on the level of the early floor.

The plan of the rooms to the north of room 49 is much complicated by walls of the later periods. A little deep digging was, however, sufficient to show that originally the whole of the space between room 49 and house VI was occupied by two commodious rooms separated by a thick partition wall running north to south. The deep digging referred to was carried out in the southern portion of room No. 46 and revealed a well-constructed floor, made of bricks laid flat

a little above the level of the early floor in room No. 49, but evidently coeval with it. A white steatite seal with the figure of a unicorn (Hr. 3730) was recovered from this floor and four feet higher up a piece of copper wire chain (Hr. 3433) consisting of two triangular links passed through each other.

Among the other antiquities found in this building (V), special mention should be made of an interesting seal (Hr. 3005) of white steatite with the usual boss at the back. It is 1″ square and ¼″ thick, the obverse being completely occupied by a pictographic legend of three lines.

House VI.—This is situated at the junction of Street 1 and Lane 1 and is a complete typical example of the dwelling houses of the first and second periods. The entrance is set near the north-east corner and leads into a rectangular shaped lobby with a well in one corner and a staircase in the other. The little chamber under the staircase is three feet square and provided with a drain, and, as hinted in the introductory remarks, may well have served as a lavatory. Its position near the street entrance is convenient, as the scavenger could do his work without disturbing the inmates. The rest of the structure is divided into a northern and a southern portion by a narrow passage running down the middle of the house and provided with a drain. The southern portion was presumably set aside for the residence of the family. Room 29 at the end of the passage may have been a bath, and Nos. 26 and 27 the public rooms where the owner received his visitors. The southern portion contains a courtyard some 14 feet square with a rectangular kitchen at the east end and a staircase at the back. The kitchen was littered with ashes, but no fireplace or querns or utensils were found in it. A rounded brick door socket projects from the south-west corner of the kitchen and as there is no such socket on the opposite side of the entrance, it may be inferred that the door consisted of a single leaf. The staircase which led up to the first floor, lies between the rooms 33 and 34. The back portion was filled up with earth and other débris and it seems probable that the upper treads were carried on wooden beams fixed in the walls on both sides. The remaining five rooms in this portion must have served as sleeping rooms, store rooms, etc.

The portable antiquities found in this house included a well-preserved square white steatite seal (Hr. 3080) which was lying in the passage (No. 30) 3′ below the surface. The obverse is engraved with a well-executed Brahmani bull with two lines of pictographs above, but there is no standard or manger under his head. This device is absent also in other seals of this class.

House VII.—The plan of this house is much mixed up with that of its neighbour on the west (No. VIII), but there are indications to show that rooms Nos. 3, 4 and 8 should be considered as belonging to the latter. Thus demarcated, the arrangement of house No. VII becomes intelligible enough. The entrance, which is now much ruined, was from Lane 1 and opened into a courtyard (No. 17). About the middle of the courtyard my excavations laid bare what appears to have been a pottery furnace. On plan it resembles the sacri-

ficial spoon (Sanskrit *argha*) (major axis 7′; minor axis 5′) with a narrow mouth 13″ wide to the south. It is surrounded by a thin wall composed of a single course of bricks laid lengthwise and is now standing to a height of 3′ 6″ above the level of the floor. A little wall curved at the top at the northern end of the furnace presumably supported the roof, but its form is not ascertainable. The inner surface of the structure was completely fused by heat and the bottom was covered with a layer of cinders which Mr. Sana Ullah, the Archæological Chemist in India, has examined and pronounced to be "slag from a kiln." Near the mouth of the furnace were lying two or three half-baked betel-leaf shaped clay tablets such as are frequently found at Mohenjo-daro and Harappa. The kiln must therefore have been used for burning tablets of this kind. The purpose of these tablets has not yet been ascertained. Since this furnace was unearthed, I have identified another structure of the same kind among the buildings explored by Mr. Vats in the Vs. Area. It has the same shape and is of about the same size.

Room No. 24, at the rear of the courtyard, contains a well built of the usual wedge-shaped bricks. The house pertains to the second period, but was much remodelled or rebuilt in the first period. A copper arrow head (Hr. 4532) was found in this house.

House No. VIII is a commodious structure which contained about a dozen rooms, and belonged to the second period. The entrance chamber occurs at the north-east corner, and had a thin screen wall built in the pilaster and panel fashion for privacy behind the doorway which is now bricked up. As in house No. VI, the staircase is placed in the entrance chamber, which opens on the west into a spacious courtyard (No. 2) along the north wall of the house. The rest of the rooms are grouped on the south and west sides of the courtyard. Rooms Nos. 10 and 11 are later additions.'

Room No. 8, which is a small chamber, 8 feet by 7 feet internally, yielded the most important find of the season, *viz.*, a hoard of jewellery (Hr. 4212*a*; Plate XII, *a* and *b*), which had been buried under the floor in the centre of the room and near the south wall.

The find comprised:—

(1) Two silver vases, one on the top of the other, of the same shape, but one somewhat larger than the other and closed with its lid of the same material. Both the vases were originally wrapped in cotton cloth (Plate XII, *a*).

(2) A copper vase with a pointed base, which contained a celt and chisels of copper.

(3) Four large but hollow round ear-rings of gold, which must originally have been filled with shellac. similar to those noticed in some terracotta figurines found at Mohenjo-daro.

(4) Two discular ear-ornaments of gold with a garland pattern round the edge, one pin and a tiny disc which belonged to one of the ear-ornaments.

(5) Three gold forehead fillets or diadems complete and similar to those found at Mohenjo-daro in previous years. Fillets of the same kind were also found in 1926-27 by Mr. Woolley at Ur in Southern Mesopotamia.[1]

(6) Thirteen pieces of similar fillets.

(7) Two somewhat broader fillets of gold, one of which is complete. Both of them are perforated along the lower edge with a line of holes for carrying beads or other kinds of pendants.

(8) Three forehead fillets of a pointed shape. All are complete and would appear to have been worn by women.

(9) Seven hemispheric hollow hair ornaments (Hindustani *phūl*).

(10) One silver bangle broken in two halves.

(11) Six small finger rings of silver.

(12) A large collection of beads of gold, silver, faience, semi-precious stones, mounted in some cases, in gold caps at both ends and pendants of different materials, which with the help of perforated spacers and terminals which were found with the beads have been tentatively made up into ten separate necklaces, five of which are illustrated in Plate XII, *b*. These necklaces consist of :—

(*a*) 282 small but solid beads of gold, 8 six-holed spacers of the same material and two gold terminals.

(*b*) Two terminals and one large bead of gold.

(*c*) 2 terminals of gold, 13 small and 3 larger beads of gold, 2 beads of silver, three beads of stone tipped with gold rings at both ends, and four other beads of stone.

(*d*) 2 beads of gold, 16 of stone, one of the same material capped with gold at both ends, 16 pendants made of green stone or faience beads with gold caps, thin discs and loops for suspension.

(*e*) 26 beads of gold and one other.

(*f*) A large number of gold, faience and silver beads, too minute to be easily counted, with spacers and 4 pendants, weighing altogether 30·59 grammes.

(*g*) One bead of gold, one of faience, 4 of silver, one of terracotta and 40 of stone.

(*h*) 2 terminals of gold, 20 flat disc-shaped beads of gold, one long and 38 small round beads of the same material, 3 stone beads with gold caps at both ends, 2 pendants and 10 stone beads without gold attachments.

(*i*) 28 stone beads and 2 gold rings.

(*j*) 38 beads of stone, one of gold and 2 rings of the same material.

The find also included a fragmentary seal exhibiting a lion above and an elephant below and a pictographic inscription, a chert scraper, a piece of a finger ring of *śaṅkha* and beads of all kinds of materials besides those mentioned above.

[1] *Antiquaries Journal* Vol. VIII, p. 12 and Plate IX, fig. 3.

Valuable as all these articles are, the scientific value of the discovery was further enhanced by the remnants of the cloth in which the vases were originally wrapped, for, as stated in the introductory remarks, they establish the use of cotton textiles at Mohenjo-daro 3,000 years B.C.

A large area to the south of the house just described yielded only fragments of structures of the first or second period. A hollow silver ring wrapped in cloth (Hr. 4174), like the vases found in the preceding house, was recovered from this area.

House IX.—This house was originally constructed in the third period and restored in the second.[1] The portion of the structure which was cleared to the third level during the past season consists of the whole of the thick wall which bounded the building on the north side, a row of three well preserved rooms (85, 86 and 87) preceded by an enclosed verandah on the west (Plate XI, *b*) and a portion of room 66. The maximum height of the walls of rooms 85 to 87 is 13 feet and of the beam holes 10′ above the floor level. There are no doors between these rooms, each of which has, however, an entrance opening in the verandah, which in its turn communicated with Street 2 by a single door. The only fragment of the later restoration that has survived is the threshold in the entrance to room 85 which was laid 7½ feet above its predecessor and is an index of the accumulation that had taken place. The level of the floor of the second period is further determined by a curious little construction in the middle of room 85. It consists of a small square pavement bounded on all sides by bricks laid on edge. A similar structure came to light in room 21 in house XV of Block 3, but what purpose they served is not apparent.

A noteworthy alteration made during the restoration of this house in the second period was the widening out of Street 2. In the Third period it had a width of only 4½ feet between this house and No. XXIII. When the house was reconstructed, the plinth of the verandah was allowed to remain under the débris and thus enabled the street to be broadened to 11 feet.[2]

Many minor antiquities were reclaimed from the débris with which the three rooms and their verandah were filled. They included several steatite seals, faience and terracotta objects, copper tools and weapons, painted potsherds, etc. In room 85, 4 feet below the surface was lying a large collection of shell pieces used for inlay and exhibiting a variety of patterns (Hr. 4066) together with a mass of the waste débris. The next room yielded a small steatite macehead (Hr. 5467), and a terracotta female figurine, holding an uncertain object in her arms (Hr. 5986). The objects found in the verandah included a potsherd painted with a row of geese and the spout of an alabaster vessel. A white steatite rhinoceros seal (Hr. 4433) was found in the street.

House X.—Buildings Nos. X, XI and XII constitute an imposing line along Lane 2, with high standing walls, tall entrances and a well-graded covered drain

[1] It is probable that houses IX, X and XIII, and perhaps XI and XII as well originally (*i.e.* in the Third Period) formed part of House V. Indeed, it is doubtful if, even in the Second Period houses IX, X and XIII are to be regarded as separate structures [Ed.].

[2] The Rai Bahadur's inference as to the widening of this street is questionable [Ed.].

running in front of them. All of them appear to be reared on the remains of edifices of the third period, the later floors being several feet above the earlier ones. The rooms on the east side of No. X were excavated to the early level by Mr. Hargreaves during the course of the operations of 1925-26. A few others, including the open court (No. 124), were deepened during my own excavations. The rooms are of different sizes and remains of three staircases have survived. In room No. 134, there are two large earthen troughs bedded in the floor, and a third in the adjoining room (No. 135). By the side of the latter, I found a quantity of oyster shells and I incline to think that all the three troughs were meant for dyeing clothes. In the middle of room 135 is what appears to be a brick-built mortar pit still filled with gypsum lime, which may have been used for plastering the walls, as patches of it are still adhering to the inner walls of room No. 134. Among the small objects found in Lane 2 was a well-preserved round steatite seal (Hr. 4393) showing a line of pictographs round the upper margin and a tiger below it.

House XI.—An entrance, 5′ 3″ wide, gives access to a rectangular chamber (117) which was also lighted by a window 3′ above the level of the floor. The adjacent chamber (118) which is also entered from Lane 2 by a narrow corbelled doorway contains a staircase which led to the upper storey. The chamber (114) in the middle of the house was probably an open courtyard. The rooms around it are generally very small but some of them are neatly paved. One of them was no doubt a bath, as it is provided with a drain to carry off waste water through the courtyard into the lane on the south side. An entrance at the back has a threshold of neatly smoothed bricks and gives access to a large open space (109) on the north. The walls are everywhere standing to a considerable height.

Chamber No. 118 yielded a miniature blue faience jar with pointed base (Hr. 5024), which may have been a necklace pendant, and a well executed Brahmani bull seal (Hr. 5028). Another interesting seal (Hr. 4952) showing a human-headed bull with a long beard and striped shoulders and hind parts came to light in room 117.

House XII.—This is a well-planned dwelling consisting of a rectangular courtyard (105) preceded by an entrance chamber (104) in the middle with a row of three rooms on each of the north and south sides. The walls are standing to a height of some ten feet and are quite plain except for the niches provided four to five feet above the floor level. The square holes for roof battens in the north wall of rooms 101 and 102 date from the building of the earlier period, which lies buried beneath this house. The floors of the rooms appear originally to have been paved and a small bit of the brick paving has survived in room 107. On it was lying a conglomerate mass of copper buttons, necklace terminals and spacers, etc., with the conical lid of a copper vase adhering to them (Hr. 6186). A large *linga*-shaped cone of limestone was found in room 106.

House XIII.—The plan of this building is much complicated by later accretions, and all that can at present be made out is that the chamber 98 was probably an open courtyard, a part of which on the north side was taken up by a verandah supported on a free-standing brick pillar and a pilaster on the

west side. Room 91 is a large paved bath of a somewhat later date. The minor antiquities recovered from this structure included a copper lid (Hr. 3033), a nicely shaped blue faience vase with narrow mouth and pointed bottom and adorned with lines of raised pimples or bosses (Hr. 3131 ; ht. 3″), a fragmentary seal (Hr. 4161) with a figure of a unicorn and two lines of pictographs, a bird-shaped pottery whistle (Hr. 5980) and a copper spearhead.

Block 3.

This block comprises four houses, Nos. XIV to XVII. No. XIV is bounded on all sides by a massively built wall averaging 3′ 9″ to 4′ in thickness, which probably belongs to the third period. The eastern portion of the house comprising rooms 1 and 12 stands several feet below the level of the rear portion. Room 1 yielded a copper jar which had been much battered by the weight of the débris, sixteen bangles of the same material, several seals, chert flakes, stone weights, etc.

The rooms on the higher level were entered by a doorway from Lane 2 on the north, and three other entrances at the back, where an additional rectangular area (14) was enclosed at a later date for the convenience of the womenkind. It is likely that apartments 7 and 8 represent the original courtyard of the house. The southern portion contains two very narrow but well-built wells. Among the small objects secured from this building was a plain forehead fillet of gold (Hr. 4052 ; length 1′ $2\frac{3}{4}$″, width $\frac{1}{2}$″) similar to those found this year in house VIII, and elsewhere in the previous years' excavations.

House XV.—This is a fairly large building about 56 feet along each side. The original structure, however, consisted of only three rooms (17, 18 and 19) ; the rooms to the east and south and the large court (13) to the north being later additions. The only entrance to the early rooms appears to have been through the south wall of room 17. This entrance was, however, bricked up when the adjoining staircase was built against it. The southern annexe is a compact suite of small-sized rooms, with an entrance chamber (22) on the east, and an open court (21) in the middle.

Comparatively few objects of interest were found in this house, but passing mention may be made of a shell crocodile head (Hr. 4900 ; length $2\frac{1}{2}$″), a broken shell inlay exhibiting a star within a circle (Hr. 5006), and a terracotta sealing (Hr. 4275) stamped on both faces with a figure of a rhinoceros and pictographs.

House XVI.—The entrance to this house lies at the end of a short alley which connected Lane 2 with Lane 3, but was blocked up at its southern end at a later date. The house (Plate XIV, *b*) contains a large courtyard (35) along the south wall of the building, with rooms grouped on the remaining three sides. The small chamber (34) adjoining the entrance chamber is set apart for a well, and as the room has doors both on the inside and out, it must have been intended to serve the neighbours as well as the residents of the house. The adjoining room (33) contains a staircase supported on an L-shaped basement. No. 32 is a paved bath at a much higher level than the courtyard. The arrangement of the rooms on the north is not intelligible, especially as the front

rooms (29 and 30) have no doors to communicate with those behind them. I am inclined to think that the latter were originally reached through a narrow passage along the east wall of room 30 and that court 27 was also left open to the sky, without which the rooms to the east and west of it would have remained in pitch darkness.

ROOM 36, at the back of the house, must also have been a bath. It has a raised floor of neatly dressed bricks and a well constructed drain starts from its north-east corner and after crossing the courtyard runs through the alley on the east side of the house until it falls into the drain of Lane 2.

House XVII.—This house stands immediately to the west of No. XVI. On the north side, it has a rectangular courtyard (39) in which charcoal was found in abundance, also a broken grindstone, a terracotta quadruped and a well-preserved copper celt (Hr. 6056). The rest of the building comprises a narrow chamber (44), 22 feet long by 6 feet wide, preceded by a small portico from which a tall narrow slit, only 5 inches wide, looks into the chamber at the back. There are two rooms of about equal size (42 and 43) to the east of the middle chambers and a staircase (40 and 45) to the west. The entrance into room 44 is through room 42, but 45, which was merely intended to support the staircase, is naturally closed on all sides. The nature of this structure is not clear. It cannot be an ordinary dwelling, for if it was so, why could not a door have been provided direct from the court and moreover what is the significance or purpose of the narrow slit referred to? The staircase is also much longer than those in the other buildings and suggests an unusually high roof over the central chamber. It appears to me as if the structure was some sort of a temple. The priest could alone enter the sanctuary by a side door, the common people being allowed merely to peep into it through the slit in front.[1]

No objects which could help to determine the character of the building were found. Some earlier remains were noticed under the floor level of the central room.

Block 4.

Block 4 includes houses Nos. XVIII to XXII and is bounded on the east by Street 2 and Lane 2, on the south by Lane 3, on the west by Street 3 and on the north by Lane 4.

House XVIII.—The largest of these buildings is No. XVIII. It has a very complicated plan and it was not until the whole of the area occupied by it had been systematically explored, that its arrangement was clearly understood. It then transpired that it was a single large building of the shape of the inverted letter L, which consisted of one court on the side of Street 2, a second and larger court at the back and approached by a raised causeway preceded by a flight of steps from Street 3, and a third section on the south, to which access was given by a broad passage from the eastern court. Two flights of steps went up to the roof from the corner of this passage.

[1] The slit referred to seems more likely to have been designed to admit light into room 44. It is directly opposite to the open court 39. There are other examples of such window slits at Mohenjo-daro. The reasons given by the Rai Bahadur for regarding this structure as a temple seem to me inadequate. [Ed.]

The eastern portion, which has three doors opening into Street 2 is built on both sides of a large open court (8), and comprises a small custodian's room (9), and a spacious paved bath (10) accompanied by a well behind it on the south side and a suite of four rooms on the north. Of these, rooms 5 and 6 had narrow corbelled doors not more than 1½ feet wide.

The southern section comprises several rooms, the doors of some of which have been bricked up. A well-constructed chute drained the water from the upper storey and fell into a level drain on the west, which has been traced up to Street 3. At a later date this drain was covered over with a large vaulted roof part of which has survived in good condition (Plate XIII, *b*).

Of the many apartments which surround the rear courtyard, No. 14 has a floor of sun-dried brick in the centre of which is a small depression 1′ 10″ × 1′ 5″, which was dug down for a couple of feet, but yielded nothing. A well constructed chute communicating with a large corbelled drain in Lane 4 is also provided for the drainage of the roof on the north side.

The only noteworthy objects found in this house were a Brahmani bull seal (Hr. 4348), two carnelian beads (Hr. 3624), and a small copper cylinder closed at one end (Hr. 5650), possibly from the top of a stick.

Nos. XIX to XXII constitute the southern end of the long and continuous line of shops which border the east edge of Street 3, and which will be described later on.[1]

Block 5.

This group of buildings comprises structures Nos. XXIII to XLVII. No. XXIII which is open on all four sides is a well built and well planned rectangular structure of the third period, which in the second and first periods was rebuilt on the original foundations. Several of the rooms on the north and east sides were cleared to the early level. The entrance was on the east side towards Street 2 probably through room 6, but the outer wall at this point has disappeared. The doors of most of the other rooms are well preserved and open direct into the central court (14), except the four corner rooms to which access was gained through the adjoining chambers. The purpose of the L-shaped daises or benches in rooms 2, 3, 8 and 11 has yet to be determined.[2] The room[3] with doors on all sides in the open courtyard in the centre of the house belongs to the second period and the stair, immediately in front of the entrance of room 8, to the first.

A unicorn seal of white steatite (Hr. 4356) was found in room 1, 2′ below the surface; a short-horned bull seal (Hr. 4318) in room 3, at the same depth and the fragment of a seal (Hr. 5946) and a long narrow lancehead of copper

[1] I suggest that Nos. XIX to XXII are quarters for retainers belonging to house XVIII. Such quarters would be a natural adjunct of so large a house. Had they been shops, we should have expected the larger rooms in each to face towards the street and to be provided with entrances on that side. [Ed.]

[2] They are probably the foundations of staircases descending from the upper storey, as in the series of bathrooms to the north of the Great Tank. [Ed.]

[3] What the Rai Bahadur takes to be a room, is I think, clearly the open part of the courtyard with a verandah around, which was contemporary with the rest of the building. [Ed.]

broken in several pieces (Hr. 5659) in room 10, 4′ and 2′ below the surface. respectively.

House XXIV is built in a very poor style and is too badly destroyed to allow of its plan being made out. In room 16 is a well and a drain which carried off waste water into the vaulted drain in Lane 4.

Houses XXV to XXVIII are much ruined structures of the first period and of no special interest. A well executed terracotta monkey (Hr. 4415) was found in room 26 of house XXVI, 3′ below the surface.

House XXIX was a large dwelling with spacious rooms most of which were excavated to the level of the third period. Portions of several late walls remained on the tops of those of the early period. Several steatite seals, including one with a short-horned bull device (Hr. 4387) and another with no animal device (Hr. 4459), a toe-ring of copper (Hr. 4429) and a terracotta dog with its tongue hanging out (Hr. 5336) were secured from this building.

Building XXX, as stated above, appears to have been a *tahkhana* or basement storey for use in summer.[1] The upper storey, which no doubt existed in the third period to which the structure belongs, has completely perished. The plan is rectangular in shape, some 80′ long north to south by 36′ to 39′ wide and consists of a large room in the middle with smaller chambers at the north and south ends. There are no doorways of any kind in any of the original rooms: those appearing in the plan belong to a reconstruction of the second period. The solidly constructed well with a moulded parapet, which was found in room 57, could not be cleared to the water level. The exact purpose of the thick wall which was built round the north, east and west sides of the edifice is not apparent. It may have been added to make the rooms cooler. An ivory pin with thin ends (Hr. 5765) was found in room 50, 7′ below the surface and a terracotta dog (Hr. 4351) in room 58, 4′ below the surface.

House XXXI could not be completely explored and the plan of the portion actually exposed is much confused by later accretions. A seal engraved with the figure of a rhinoceros (Hr. 5949) was found in room 62, at the depth of 10′ below the surface and a fragmentary elephant seal (Hr. 4355) in room 64, 2′ 5″ below the surface.

Nos. XXXII to XLVII.—The rest of the area in Block 5 is occupied by a double row of small structures, evidently shops,[2] standing back to back and facing in opposite directions. These buildings form part of the Bazar which lined Street 3 on both sides (Plate XIV, *c*). Most of them consist only of a single room in front with one or two smaller chambers at the back. A few of them have also a narrow passage, which may have been left open to the sky at one end, and occasionally an additional room or two as well. The room fronting the street in each shop would presumably be used for the display of the wares

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[1] What the excavator takes to have been the lower storey of building XXX, is, I am convinced, its foundations, which in the large chamber 55 were filled in solid with sundried brick up to ground level. [Ed.]

[2] It is quite possible that these were shops. On the other hand, their remarkable uniformity suggests that they were tenements for servants or others attached to the building XXX, which is of an exceptional character and may have been a temple. [Ed.]

where sat the shopkeeper to ply his trade. In one of the shops, No. LXII, on the opposite side of the street, I found in position a large pot fixed in the floor right in front of the entrance. Several of the shops contain small bathing floors with escape-holes for the water and masonry pits, or earthen jars bedded in front of them in the street. No. XLIII would appear to have been a public drinking place (Hindustani *piāū*). It contains a well surrounded by a brick pavement which was littered with broken earthen bowls with pointed vases. The brick-lined pit in front of the well room was also filled with similar vessels.

These shops yielded many portable antiquities: No. XXXII a copper spearhead (Hr. 5659), and No. XXXVI a yellow Jaisalmer stone handle (Hr. 5655) of a chisel or knife, in which pieces of the copper tang of the tool still remain. A fragment of a square white steatite seal (Hr. 5676) which contained three lines of pictographs was found in No. XXXVII, and eleven star-shaped beads of faience (Hr. 4482) in room 89 of No. XXXVIII, 6′ below the surface. In No. XXXIX were five seals, one of which—a tablet of copper (Hr. 4573) engraved with a figure of a bull—was found 3′ below the surface, and another with that of a rhinoceros (Hr. 5635) in room 91, 4′ below the surface. A well-executed tiny squirrel of blue faience (Hr. 4534) was also found in this building, 3′ below the surface as well as a seated terracotta male figure (Hr. 5606) holding a terracotta cone between his arms, upon his knees. No. XLII yielded, 4′ below the surface, one (Hr. 5804) of the largest seals found at Mohenjo-daro or Harappa. It is 2·7″ square, by ·8″ thick and contains, besides the unicorn and pictographs on the obverse, a similar sign cut on the pierced boss at the back. A faience imitation of a conch shell (Hr. 5202) was lying in room 112 of No. XLVI, 6′ below the surface.

Block 6.

Across Street 3, at the north-west corner of Section B of Hr. Area stood a solitary structure No. XLVIII, which from its large dimensions and massive construction must have been a specially important building. The northern portion of the edifice had been washed away by rainwater and what remains could not, for want of time, be completely explored. Enough, however, has been brought to light to show that the plan was a square of over 75′ along each side, with a spacious court in the centre. The structure obviously belongs to the third period, but its interior was largely remodelled in the first period, to which no doubt the large paved chamber or corridor along the entire south side belongs. The outer wall on this side is quite plain except for three niches of varying dimensions at its western extremity.

A *svastika* sealing of yellow faience was found in this building as well as two or three others with the unicorn device.

The area immediately to the east of the house XLVIII yielded several objects of interest. One of these is a well preserved seal bearing a figure of a unicorn (Hr. 5311) which was found 4′ below the surface. This seal differs from others of this kind in that the animal here faces in the direction opposite

to that in which he generally appears in other seals. The place of the standard or trough[1] is also in this specimen taken by what looks like a palm tree or vase with palmettes. Another seal with the buffalo device (Hr. 5225) came to light close by, but 3′ below the surface. A third object found in this area was the bust of a terracotta female figurine (Hr. 5312) with the hair coiled in a broad knot upon the crown.

Block 7.

Block 7 embraces the area to the south of the Block 6, bounded on the east by Street 3 and on the south by Lane 9, and comprises houses Nos. XLIX to LV. All these houses belong to the second period, except No. L which belongs to the third period. A large area to the south of Block 6 was devoid of structural remains save for a long thin wall along Street 3, presumably the enclosure wall of a building of the first period, which has perished, and portions of two or three rooms adjoining the south exterior wall of Block 6. In one of these rooms, 2′ below the surface, lay a collection of pottery vessels (Hr. 4597—4600) including several large *chatis*, lids and small beakers. They were all filled with earth and débris and yielded no objects of interest. The same area also produced a fragment of a white steatite seal (Hr. 4629), on which only one or two pictographs, the horns of the unicorn and a part of the usual standards remain. There is also a pictograph on each of the edges.

House No. XLIX has come down in a very fragmentary condition.[2] Room 1 contains a well surrounded by a brick paving. The adjoining room 2, which appears to have had a doorway on the north side, is interesting on account of two well constructed privies (Plate XIV, *d*) to which a reference has been made above. The square paved floors in front of the privies, which were no doubt used for ablutions, were drained by channels in the back wall, which connect with a well-constructed drain in the lane to the south of this house. A well-built drain belonging to the first period has survived at a higher level in the western portion of this lane. The only objects found in House No. XLIX were a perforated pottery jar or strainer (Hr. 5850) and two miniature vases of the same material which were found 6′ below the surface.

No. L, which consists of four chambers enclosed with massive walls without any kind of doorways and filled in with sun-dried brick laid in regular courses, appears to be the basement of some structure of which no trace is now left.[3] There is a narrow passage along the south side of the structure and another narrow chamber (11 and 12), which was originally fitted with two doorways, extends from the north end towards the east.

The alley to the west of the house yielded, at a depth of 4′ below the surface, a conch object (Hr. 5920) shaped like a bow (chord $3\frac{3}{8}''$) which was originally cut with 5 shallow holes, four of which remain. A similar

[1] This so-called "standard" or "trough," I take to be an incense-burner [Ed.]

[2] It is not unlikely that XLIX and XLVIII are parts of one and the same edifice—possibly a palace. [Ed.]

[3] The construction—and to some extent the plan also—of this building suggests a comparison with building XXX described above. [Ed.]

object but with the holes running through it was found at Harappa, but its purpose cannot yet be ascertained. At the same spot and at the same depth were found a copper lance-head (Hr. 5459) of which the tang and part of the blade are broken off, and a well preserved square boss seal (Hr. 5992) with a line of pictographs above and a well executed rhinoceros with his head bent over a trough in the lower field. The lines of punctured dots upon the shoulder and the hips of the animal are meant to indicate the hair.

The area to the north-west of No. L, across the lane, was occupied by a house, of which only one or two rooms were unearthed last season. One of these (6) contains a well and yielded at the depth of 4′ below the surface a fragmentary white steatite seal with a figure of a unicorn (Hr. 5607).

No. LI is a large building with 2 doorways on the east side opening into Street 3. The southern portion has a large open court (18) with rooms on all four sides, some with entrances, others without them. Between room 16 and court 18, there is in the thickness of the east wall a well-built chute which emptied itself into a brick cesspool outside the house. The northern portion of the building is much ruined, but room 14 appears to have been open to the sky. No antiquities of special interest were found in this building.

No. LII was apparently a shop. It consists of an oblong room (28) with a smaller one (27) communicating with it on the north. The entrance is set near the southern end of the front wall of the former room and is preceded by a low brick platform on the outside. Immediately above this house. Street 3 is crossed by a curved thin brick wall, intended, apparently, to close the street.

No. LIII, which adjoins No. LII on the west side, has an entrance chamber (29) opening into Lane 9, an open court (30) in the middle and another room (31) at the back. Noteworthy features are a staircase with the usual low chamber beneath it in the corner of the lobby, two deep niches in the southern wall of the courtyard, and broken corners of the threshold to the main entrance, indicating the former existence of a door frame. At the depth of 4′ below the surface in room 30 there were found an ivory bar (length $2\frac{5}{8}''$; Hr. 5515) engraved with a number of pictographs and a spear head of copper (Hr. 5514).

No. LIV.—The house next door is a large dwelling with an open court along the back or north wall, which originally communicated with No. LIII by a doorway now blocked up.[1] There are 7 rooms of different sizes grouped on the south and west of the courtyard. Out of these, room 37 is the lobby with a wide doorway preceded by a low platform on the south side. The western portion of this room is occupied by a bath paved with dressed bricks and provided with a drain which empties itself into a broad-mouthed pottery jar buried in a masonry pit in the lane outside. Close to this in the thickness of the exterior wall of the house is a broad chute with a cesspool at the base. The small chamber (34) beneath the staircase was entered through

[1] It is probable that LIII and LIV originally formed one house. [Ed.]

rooms 36 and 35 and could only have been used as a store. A square white steatite seal (Hr. 4986) was found in room 33, 2′ 8″ below the surface. Part of the legend, the head of the unicorn and both the standards are broken off.

Lane 9 referred to above, originally led on to house No. LV and connected with the alley which lay to the west of buildings Nos. L and LV. It was, however, closed at its west end by a well built flight of steps to give access to the roof of the latter building.

No. LV.—This was originally a small dwelling and was found in such a dilapidated condition that it was not possible to make out its plan. Room 40 appears to have been a bath and has a well-preserved paving consisting of a single course of burnt bricks laid flat upon a substratum of alternating rows of burnt and sun-dried bricks. Such construction has not been noticed in any other building on the site. The chief interest of this building lies in a number of valuable antiquities yielded by it, the most remarkable among them being a bronze statuette of a naked dancing girl (Hr. 5721 ; Plate XII, *c* and *d*) cast in the round. It is in perfect preservation except for the feet, which are broken off. The existing height is 4¼″ and the figure is characterized by coarse negroid features but not devoid of a peculiar primitive vigour. The hair is gathered in a large mass near the right ear, the left leg bent forward and the right hand placed on the right hip. The left arm, which hangs down, is covered with bangles from the shoulder to the wrist and explains why so large a number of ornaments of this class in copper, conch, faience and terracotta have been found both at Mohenjo-daro and Harappa.

The southern room also yielded two other antiquities (Hr. 5725), *viz.*, a copper spoon with a tubular handle (length 4¼″ ; width 2″) and an instrument of the same material consisting of a rectangular blade with a narrow tang (length 1½″; width ⅞″).

Four other objects unearthed in this house deserve mention, *viz.*, three seals and a well executed copper statuette of an elephant in the round (Hr. 4363; length 1¼″, ht. ¾″) which was lying 4′ below the surface. A part of the animal's trunk and the feet are missing. As usual, the figure was cast in two halves and the ridge at the joint still survives. One of the seals is a square tablet of black steatite with the unicorn device (Hr. 5629), which was found 3′ below the surface. The legend consists of two lines of pictographs, of which the second or lower line contains only one sign, *viz.*, the double-key shaped symbol which is so frequently met with both at the beginning and the end of these inscriptions. This circumstance is interesting as it will help in determining the direction in which such inscriptions were written, *i.e.*, presumably the left to right direction. The next seal (Hr. 5516), found 2′ below the surface in room 42, has also the same animal device and a two line legend. The third seal (Hr. 4364) was also found at the same spot but 3′ 6″ below the surface. The material is white steatite and the device a short-horned bull. The seal had been anciently repaired with a narrow slice neatly glued to the top with bitumen. This slice was not found and the tops of the pictographs are missing.

Block 8.

Block 8 includes nine structures, Nos. LVI to LXIV, of which Nos. LXI, LXII, and LXIII and the front portion of No. LVI, all facing Street 3, must have been shops. The rest of the buildings are dwellings.

No. LVI.—This building stands at the junction of Street 3 and Lane 9 and has a frontage of 37′. I have included rooms 1 to 9 in this structure, but it is not impossible that the three rooms 6, 7 and 8, with a doorway opening into Street 3, was a separate structure, presumably a shop and belonging to the same person as the rest of the building. Room 8 yielded a fragmentary copper tablet (Hr. 6058) which was lying at a depth of some 6′ below the surface.

The remaining portion of the building must have been used for residential purposes. It has two doorways, one preceded by a high doorstep towards Street 3 and another opening into the courtyard (2) from Lane 9. Room 1 in the north-east corner was a bath, but why the doorway in front of it was bricked up, is not apparent. A large-sized white steatite seal, measuring 2″ square and 9/10″ thick (Hr. 4601), was found in room 3, 3′ below the surface. The legend consists of a single line of pictographs and the unicorn, as is generally the case, faces left. A copper amulet (Hr. 4615) was also found at the same spot.

No. LVII is situated at the end of Lane 9, opposite to No. LIV. A narrow alley branches away from Lane 9 to the east of this house. A feature of this structure is two windows opening into Lane 9, and a third one on the east side. They are four to five feet above the level of the lanes. A well preserved steatite seal with the unicorn device (Hr. 4868) was found in room 10, 5′ below the surface and two others of the same type (Hr. 5310 and 4872), 3½′ below the surface in room 13 to the south of this house, which might originally have formed part of it.

No. LVIII is a tiny house with two paved baths (16 and 18) with proper arrangements for drainage into a narrow lane on the east side. A copper amulet (Hr. 4799) was found in room 18, 4′ below the surface.

No. LIX.—Of this house, only one large room (20) was unearthed. It has one doorway on the east, two on the west and a fourth one on the south side. A piece of a copper wire chain (Hr. 4410) was found in this room, at the depth of 2′ below the surface. It consists of two complete links and part of a third.

No. LX could not be completely explored. The rooms actually unearthed were filled with sun-dried brick like No. L. The southern wall has a chute with a flat bottom instead of a sloping one as is ordinarily the case at Mohenjo-daro.

Nos. LXI, LXII and *LXIII*, as stated above, appear to have been shops. No. LXI belonged to a coppersmith as in two of its rooms (31,32) I found several lumps of unrefined copper and pieces of pottery crucibles. Room 30 yielded a necklace spacer, two beads (Hr. 4803) and eight fragments of bangles (4804), all of faience, at the depth of 4′ below the surface. A button-shaped

ear-ornament of the same material and adorned with a lozenge-shaped pattern enclosed by a circle (Hr. 5549), and a copper seal (Hr. 5549) were found in room 31, at the same depth.

Nos. LXII-LXIII.—In the latter house, room 39 appears to have served both as entrance chamber and shop; for, immediately behind the doorway, I found bedded in the floor a large pottery jar which must have been meant for storage of provisions for sale. In modern villages petty shop-keepers frequently set apart one of the front rooms of their houses for their business, though now-a-days a separate doorway is always provided for the entry of women folk into the residential portion of the house. The rooms of the house LXII opened into the middle room 36, which must have been open to the sky. Three *linga*-shaped cones fashioned out of the nuclei of conch shells, each about 2″ high (Hr. 5539), were found in the last-mentioned room, 3′ below the surface; and a seal of white steatite depicting a figure of a unicorn (Hr. 4436) in room 32, 1′ below the surface.

No objects of any interest were found in No. LXIII.

No. LXIV.—To judge from its southern exterior wall, this must have been a large and well built house; but it is much ruined and complicated by later additions and its plan is not clear. It was entered from Lane 10 by one or possibly two entrances, both of which are now bricked up. Two white steatite seals with unicorn device (Hr. 5656 and 5699) and a miniature ivory bar, square below and circular above (Hr. 5715), were found in room 43, 5 to 6 feet below the surface.

Lane 10, which takes away from Street 3 at this point, is only 2½′ wide at the mouth, widens to 6′ in front of house No. LXIV and to 16′ where it turns south. At this corner a well built stair-case ascends to a raised area which has not yet been explored. As usual, all the treads are steep but finished in this case with a course of bricks laid on edge. The western section of this lane was choked with white ashes and a patch of fused bricks in the wall to the west indicated the exposure of this area to a fierce conflagration which also destroyed house No. LXVI on the east side. It will be interesting to follow this lane up further south. A well executed nude terracotta figure representing a man standing with both arms hanging down (Hr. 5368: ht. 5¾″) was found in this lane. The right hand and the lower legs are broken off. The hair is treated in a high doubled tuft supported with a band. The figure was painted red and traces of the colour still remain.

Block 9.

The two houses, LXV and LXVI, included in this group, stand at the southern end of Street 3 which appears to extend further south. Originally, they were one house and their disposition, one in front of the other, suggests a division between two branches of the same family, when the doorway between rooms 1 and 6 was bricked up and a thin wall carried against it further to prevent all ingress from that direction. Thus partitioned, *No. LXV* comprises only three rooms on the ground floor, of which room 2 must have been

left open to light up those on the sides. The southern room (3) would be the public room with a separate doorway of its own, and the northern portion with a thin screen wall near the entrance reserved for the family. Two fragments of a faience bangle (Hr. 5759) and a pierced finial-shaped object of ivory (Hr. 5409; ht. $2\frac{1}{2}''$), decorated with wavy lines separated by plain bands, were found in the court-yard (2), 3′ and 4′ 6″ below the surface. A similar object was found in 1925-26 in the Vs. area (Vs. 2651).

No. LXVI.—This house is somewhat larger in size than No. LXV, but its frontage along Street 3, is just wide enough for the doorway. The entrance chamber (4) was filled with débris in which charcoal predominated, due no doubt to the fire referred to in connection with Lane 10. A large stone cone resembling a *linga* (Hr. 6088) was found lying against the north wall.

The inner arrangement of the house is very clear. The southern portion is occupied by two small apartments (12 and 13) with short corbelled openings in their walls and doorways opening upon a narrow passage on the north side. The latter contains a stair-case which led up to the top of the house. The small apartments referred to may have been private shrines. The northern section of the structure consists of an open court (6) with four rooms to its south and west. All these rooms including the courtyard (6) have broad niches in their walls.

A faience bead (Hr. 5403) was found in the courtyard (6) and a chert nucleus (Hr. 5895), a copper antimony rod broken in two pieces (Hr. 5896) and a fragmentary carnelian bead (Hr. 5897) in room 7, 10′ below the surface.

SECTION A.

My operations in Section A on the east side of Street 1, embraced a narrow strip, 30′ to 40′ in width along this street, which had either been left untouched by Mr. Hargreaves or only imperfectly explored. In the area enclosed on the north and east by Deadman's Lane, I unearthed some 28 rooms, which I have designated Block 4 and divided tentatively into six houses (X to XV), Blocks 1 to 3 comprising houses I to IX having been explored in 1925-26. The newly excavated structures belong, like those on the west side of Street I to the same three periods, but have suffered from denudation due to the rush of rainwater into the street and from later additions rendering their inner arrangement somewhat unintelligible.

No. X is built in a very poor style and comprises five rooms (1 to 5), of which room 4 has a doorway opening into Street I while there is a second entrance from Deadman's Lane into room 3. The latter is now blocked up. Room 5 is represented by a solid burnt brick platform 15′ × 32′, the exact purpose of which could not be made out.

No. XI.—This structure contains six or seven rooms, of which the three small ones at the back and facing Deadman's Lane might have been shops. The main entrance opened into room 6 from Street I. The small narrow chamber at the south-west corner of room 6 was presumably a bath, and has a drain leading into the southern sewage pit in Street I.

No. XII.—The plan of this house has not been clearly made out. What we have here are two rooms (12 and 13) standing one in front of the other with what may have been an open court (11) on the north, a narrow passage to the east and two rooms (15 and 16) on the south. Room 11 was paved with crude bricks. The back or eastern portion of the building was remodelled in the first period and the little paved bath (14) at the south-east corner several feet above the ordinary level of the structure must be part of this restoration.

No. XIII.—The front portion of this house (room 18), measuring 31′ × 20′ 6″, was paved with sun-dried brick and yielded a large variety of objects including a pictographic seal (Hr. 3689), beads of faience (Hr. 3695), two pottery lids (Hr. 3696), a fragmentary terracotta female figurine (Hr. 3690) holding a dish containing cakes or flowers between her hands, all 10′ below the surface; a pottery rattle (Hr. 3575), a curry stone (Hr. 3586), a faience chessman (Hr. 3575), fragments of shell bangles (Hr. 3589), 3′ below the surface; and chert knives (Hr. 3634) 6′ below the surface.

No. XIV is a large room (20) paved with sun-dried brick with a narrow stair-case at the back.

No. XV could not be completely excavated. As in house No. XIV opposite it on the west side of Street I, the back portion (21) of this building appears to have been constructed on a higher level. This room is irregularly shaped and is about 24′ along each side. Two chert knives (Hr. 4837), two pottery wheels (Hr. 4843), a *kauri* shell and other objects were found in this room 5′ below the surface, and a pottery prism (Hr. 3766) with pictographic legends on all three sides in room 22, 10′ below the surface.

Several other antiquities were found in this area. A well preserved fishing hook of copper (Hr. 3312) came to light 3′ below the surface in room 53 in house V, which had been partially explored in 1925-26. The same room also yielded a pictographic seal (Hr. 3277), 4′ below the surface and a carnelian bead (Hr. 3255, length 2½″), and a copper antimony stick, etc. (Hr. 3240). 2½′ below the surface.

Vs. AREA.

The excavations carried out in this area in the preceding years have been described in the Annual Reports for those years. My own operations of the past year comprised an area of some 200′ from east to west by some 100′ from north to south, on the south side of this mound. My original purpose in undertaking work here was merely to ascertain if the broad street, which had been found to cross the whole of the Hr. Area from south to north, would be found to continue northward to this area. A little digging was enough to bring to light a broad street with its solid walls aligning accurately with those of the street referred to and the excavation on both sides of it followed almost as a matter of course. A length of some 130 feet of the street was thus unearthed on the Vs. area. Beyond this point, it was not possible to expose the whole of its width, but narrow trial trenches along its east wall

supplied definite indications of its continuance northward. The long depression between Areas Hr. and Vs. obviously marks the position of a wide cross street running from east to west. The plan of the excavations on this area was brought up to date. The portion of this mound to the west of the broad street has been named Section A and that to the east Section B. All the buildings exposed in this area have also been renumbered consecutively from south northwards. The same arrangement is adopted in the account that follows.

Section A.

Block I.

This block comprises some 62 rooms including a few, partially excavated by Mr. Vats in 1925-26. The distribution of rooms Nos. 1 to 26 between houses II to V has been a matter of some difficulty: the division adopted however, is the most plausible that can be suggested.

No. I.—This appears to have been a large building and the portion exposed is some 144′ long from east to west, and comprises some nineteen rooms (27—45) a few of which are of considerable dimensions. The outer east wall is 4′ 8″ and the north wall 3′ 10″ thick. The building faced towards the south on to a broad street, which, I believe, will be found when the gulley between Areas Hr. and Vs. comes in for exploration. The southern section of the house has either perished or remains to be uncovered. To judge from the elevation of the thresholds in this building (165·5′ above mean sea-level), which closely approximates to that of the houses of the third period in the Hr. Area, the building under description should be assigned to the same age.

Room 37, which like a few others adjoining it could not be cleared to its original floor level, yielded a large and interesting collection of pottery vessels, etc. (Vs. 3622 to 3662), at the depth of 6′ below the surface. The largest of these vessels is a beautiful vase (Vs. 3638; ht. 2′ 3″, diameter at the shoulder 1′ 5½″), in perfect preservation and similar in shape and material to Vs. 1080 excavated in this area in 1925-26. Other specimens in this collection included two bottle-shaped vessels with red slip (Vs. 3842), two fragments of flat dishes with low rims (Vs. 3639), a large bowl blackened round the upper edge (Vs. 3649), a pot-bellied terracotta figurine (Vs. 3633; ht. 3″) and tablets. The same room also yielded a curious barrel-shapped hollow object pierced with a small hole at one end but closed at the other (Vs. 3612; length 8½″, diam. 3¼″), made of very sandy clay and presumably meant for a floating toy or a flesh rubber; a small quantity of charred date seeds, chert knives, etc. A lump of mica (Vs. 3528) was found 7′ below the surface in room 30; an oblong copper seal (Vs. 3504) at the same level in room 28, and a terracotta tablet (Vs. 3513) with the rhinoceros and pictographs on each face in room 30, nine feet below the surface. A few other seals were also found in this house. Three ivory dice with various devices (Vs. 3588-89 and 3591) were found in room 36, 3′ below the surface and a copper hook (Vs. 3598) in room 44, 1′ below the surface.

No. II.—Houses Nos. II to V would appear originally to have all belonged to one and the same house which was partitioned off, as shown in the plan, in the second or first period. The door sills of these structures are some 11′ higher than those in house I. No. II has in its middle a large oblong chamber (23) communicating with a large room (2) on the north and another (25) on the south. The main entrance was from Street I into room 23 and a flight of steps has survived in front of it. All these rooms were neatly paved with brick on edge and the paving is in perfect preservation in room 23, which is also provided with five conical shaped basins lined with wedge-shaped bricks, apparently meant to hold the pointed bases of large storage jars. In the south-east corner of this room is what might prove to be a very narrow well. A stair-case led up to the top of the house from room 25, and a small narrow chamber (21) behind it, which was covered with charcoal and ashes, may have been a kitchen. The upper part of a seal with a line of pictographs (Vs. 3359) was found in room 22, 4′ 6″ below the surface and a short-horned bull seal (Vs. 3503) in room 23, 6′ below the surface.

No. III contains only two rooms, of which the one in front (1) was paved with burnt brick. A chute in the thickness of the east wall discharged itself into a rectangular cess-pool in Street I. A square boss seal of white steatite with the unicorn device (Vs. 3391) and an ivory cube (Vs. 3392) were recovered from room 4, 5′ below the surface and a copper spear-head (Vs. 3322) from room 1, 4′ below the surface.

No. IV.—The greater part of this structure was excavated in 1925-26 and yielded no objects of interest. In the inner walls of room 7 are five niches, and seven in those of room 8.

No. V.—Sandwiched between Nos. I and IV, No. V comprises eleven rooms (9 to 19) and was presumably entered from the narrow lane on the west. Room 10 was an open court and the area represented by rooms 18 and 19 was also possibly left open to the sky. None of the rooms are paved except 15 which has also a covered drain along its west inner wall and would appear to have been a bath. In the middle of this room was a large pottery jar (Vs. 3454), buried 2′ 3″ in the floor. Its upper portion, which projected above the floor, is broken off. It contained six pottery bowls with pointed bases, another bowl similar in shape to the silver bowl discovered by Mr. Hargreaves at Nal and an oblong pictographic seal with its back cut away. A reel-shaped bead of faience (Vs. 3474) was found in room 10.

No. VI was presumably open on three sides and the entrances on the north and east sides are well preserved. Part of room 52 served as a court-yard; other rooms are commodious and airy. The niche in the north wall of room 46 is 1′ 8″ deep.

Room 50 yielded a square steatite boss seal with the unicorn device (Vs. 3594) and two fragmentary faience bangles (Vs. 3603), all of which were lying 5′ below the surface.

No. VII is built in a very poor style and could not be completely excavated. It has an outer court on the north and another one within (55).

The latter originally opened into a wide lane on the east, which was converted into a room (53) at a later date. The area at the back of the structure is occupied by a double row of very small cells, the exact purpose of which could not be made out. A tiny stone weight (Vs. 3664) was recovered from room 62, 4′ below the surface.

Section B.

Block 1.

In the area to the east of Street I, two or three structures were excavated, and Lane 1, the western section of which had been unearthed in 1925-26, was followed up for a considerable distance beyond Street 1 towards the east. A deep covered drain runs through this lane.

No. I.—Houses Nos. I and II originally belonged to one and the same building which was entered from the main street. The southern portion of No. I was much denuded by the rain water running down the mound into the gulley on the south. Rooms 9 and 10 were paved with brick on edge like the rooms 23 and 24 in house II on the west side of the street, but only fragments of the paving have survived. A brick door-socket (Vs. 3400) was found in room 11, 4′ below the surface, and a terracotta wheel (Vs. 3564) a foot lower down. Room 15 yielded a copper seal (Vs. 3500) in two pieces, 3′ below the surface and the painted neck of a vase (Vs. 3502), 4′ below the surface.

A considerable area to the east of Nos. I and II was partially explored, but the structures here were badly ruined. Room 12 yielded a terracotta female figurine (Vs. 3401) with a bowl-shaped adjunct on either side of the head, a dog (Vs. 3441) of the same material and a miniature solid vase (Vs. 3455) with bulbous body, ht. 2″, 4′ to 5′ below the surface.

Block 2.

In the area to the north of Lane I only one small structure (*No. I*) was excavated. It originally consisted of a large room paved with rubbed bricks in front and two smaller ones (2 and 3) at the back. The front room was in the first period divided off into three rooms (1, 4 and 5) by means of walls founded right upon the paved floor. Room 2 contains a well and a bath built four feet above the level of the floor in the front room. A corbelled window in the south wall of room 1 deserves mention.

A neatly cut brick door socket (Vs. 3423) was found in room 2, 5′ below the surface and a fragmentary shell bangle, a chert knife and a mother of pearl (Vs. 3426) 3′ below the surface. A steatite seal (Vs. 3350) with its legend and animal device badly scratched was also found in this room 4′ below the surface, and a cubical stone weight (Vs. 3493), another weight of a smaller size and a fragmentary ivory rod (Vs. 3495), 5′ below the surface in room 3.

"L" AREA.

By Mr. Ernest Mackay.

The mound designated by the letter "L" is situated to the south of the large group of buildings on the southern slope of the stupa mound, from which it is separated by a distance of 92 feet.

The highest portion of the mound, which is 190 ft. above mean sea-level, is at its extreme south, and the southern and eastern slopes are very steep. On the west the declivity is slighter and on the north quite gradual.

The excavation of the mound was commenced at its southern end in January, 1927, and was carried gradually northwards. The mound has not yet been entirely cleared, but enough has been done to show its nature. The remains found in it prove that this area was an important one.

As in all the other mounds at Mohenjo-daro, three distinct periods have been traced belonging to the Indus Valley civilization; and there is good reason to think that other and earlier buildings lie beneath those that have already been wholly or partially cleared. The latest period is only represented in the highest part of the mound and the buildings of this date are in a bad state of preservation; in most cases only the foundations of the walls and scattered portions of pavement remain. As these have not yet been removed to examine what lies beneath, the plan of the mound necessarily appears somewhat complicated on Plate XV. For convenience in description "L" mound is divided into sections denoted by large letters. And these sections again are divided into blocks, which roughly coincide with groups of houses, numbered with large figures. Small Arabic numerals are used for the rooms, etc.

SECTION A.

Starting at the south of the mound I will begin my description of the buildings with Section A, which has been divided up into three blocks, Nos. 6, 7 and 8.

Block 6 is small, and is bounded on the west by a wall of the third period which, it is probable, was added to in the second period, though there is nothing actually left of the masonry of that date. At any rate, it was made use of during the second period in the construction of a series of small chambers, Nos. 114, 115 and 116, whose purpose it is impossible to determine. There is no sign of any of these rooms having been paved, and it must be concluded that they had earthen floors. The débris inside the chambers contained jars, cones, model animals and one sling-ball, all of pottery.

Block 7 is of large size and quite well defined. It is bounded on the east by an early wall and a late wall, end to end, in exact alignment. That the southern and late portion is a copy of the earlier section of the wall is shown by the shallow buttresses—an unusual feature of the walling of any period at Mohenjo-daro.

It will be noticed that block 7 is more or less compact, though a grea deal of the early walling is now concealed beneath additions of intermediate

and late date. No definite indications have yet been found of its original entrance, though the probability is that this was placed at the south in the plot marked 117.

The block of masonry of intermediate date, a little to the north of 117, seems to have been a flight of steps leading up from the lower level on the east.

The western portion of block 7 is on fairly flat ground. Chamber 118 is bounded on the south by the exceptionally thick early wall that also bounds the adjoining block 8. This wall is remarkably well built; its size suggests that it was once an enclosure wall.

The remains of paving of intermediate date show that room 118 was at one time used as an ablution chamber. Beneath this pavement there is an elaborate system of water-channels of the same period. The waste water was allowed to run through an aperture in the western wall which communicated with a drain outside. Two large and rather badly preserved pottery jars were found in this chamber, one close to the northern wall, the other lying against the southern wall.

The three adjoining rooms to the north, numbered 119, 120 and 122, are quite small compartments. No. 122 has a well-built ablution place at its northern end, and there is an aperture in the western wall to carry off the water from the bath.

Chambers 119 and 120 are of little interest. The pavements of both are more or less destroyed.

The large court, No. 121, measures 23 ft. 9 ins. by 25 ft. 10 ins. In view of its considerable size, it seems unlikely that it was ever roofed over.

All the walls of chamber 111 are of the late period. Chamber 100 is very large, measuring 42 × 14 ft. It is entered by a doorway in its south—western corner, which is now in a very dilapidated condition. Two fragments of paving, of which one is 1 ft. above the other, show that this chamber was occupied at two different periods. Besides a few small objects mainly some beads, shells, pottery balls and two jar covers, one important find was found in this room. This was the limestone head figured in Pl. XIX, Nos. 1, 2 and 3. Judging by the level at which it was unearthed this head probably belongs to the Late Period. It measures 5·7 ins. high.

Block 8 is divided from block 7 by an early wall, a portion of which is overlaid at its northern end by later walling. Through denudation it varies considerably in height. It seems that there was once a narrow lane on the west of this wall, of which but little now remains. The principal feature here is a drain of Intermediate date.

Immediately to the south of the portion of the street marked 123, is an old doorway set in the early wall to the east. This was subsequently blocked up very roughly. The southern jamb of this doorway is part of the very thick early wall to the south of it.

The buildings to the west of the drain already described are of a very complex nature, owing to the presence of badly denuded walls and pavements of the Late Period, which it has not been thought desirable to remove as yet.

On the south there appears to have been another small lane running E.-W. immediately inside the great wall. In it are remains of a drain sloping to the west. Its eastern end doubtless once communicated with the long N.-S. drain in the lane first mentioned.

Chamber 129 is of late construction and its well paved floor suggests that it was once a bath-room. It is built over a wall of intermediate date, which from its thickness seems to have been of considerable importance. In the neighbourhood of this wall, in the plot marked 128, the finely modelled figure of a mastiff seen in Pl. XVIII No. 10, was found a little below the level of the top of the wall.

Partially overlying the northern end of this wall is another bath, in chamber 126. The two sides, which alone are preserved, have an edging of brick projecting 3 inches above the pavement, and the floor slopes towards the south eastern corner. To the south of this bath the remains of intermediate walling overlie the early cross-wall that bounds chamber 126 on the south.

The northern portion of this block is, like the southern part, complicated by later walls and pavements which we have not yet removed. There is little of interest here save another bath and the structures around it.

Chamber 109 to the west of this bath is also of late date and has a few scanty remains of paving.

With the exception of the figure of the dog already mentioned, an adze, 7·6 inches long (Pl. XVIII, No. 12) and a carved ivory plaque measuring 1·9 inches long (Pl. XVIII, No. 13), no antiquities of importance were found in this block; possibly they may lie beneath the badly denuded later constructions. Close by this chamber to the east there was found the broken seal shown on Pl. XVIII, No. 9, together with a second seal, No. 4 on the same plate.

Section B.

Owing to denudation this section now lies at a considerably lower level than section A, with the result that little walling of the First Period now remains, except on the south and west, where the unusual heaviness of the masonry has prevented much erosion. The very thick wall to the south-west of the section is especially noticeable. It is very badly built, despite its thickness of 7 ft.

The most interesting part of this section is its eastern portion. Here we find the space between two well preserved intermediate walls converted by partition walls of the late period into a series of small chambers, Nos. 93, 94, 95, 96 and 97.

In room 97 there were two very badly broken storage jars, which it was impossible to reconstruct. And a quantity of charcoal mixed with broken brick and other rubbish was found in the filling of the room—a very unusual feature.

Room 96 which is not entirely regular is bounded on the north by a thin wall of the Late Period. Fragments of the original brick flooring still remain, and there is a well-cut niche in its eastern wall which seems to be of late work-

manship. A pottery cone and two model animals in baked clay were found near the pavement level of this room.

In the thin northern wall of room 95 there was once a doorway, which was subsequently closed and still remains blocked up.

Room 94 is bounded on the north by an earlier cross-wall which connects the two walls on the east and west of it. This room was formerly paved with burnt brick, one layer thick. A fine seal and a jar cover were found in this chamber at pavement level. (Pl. XVIII, Nos. 5, 6 and 7). The seal is inscribed on both sides and also on two of its edges.

The entrance to all these chambers, with the possible exception of No. 97, could only have been from the west and over the early wall.

It appears unlikely that 92 was a chamber; it was probably merely a large recess on the northern side of a big courtyard. A considerable number of objects were found in the débris overlying this recess, including a seal, pottery cones, jars, model animals, etc. With the exception, however, of the razor figured in Pl. XVIII, No. 1, they are of little importance.

Near the centre of Block B there is a large mass of intermediate walling which was probably once connected with the intermediate walls to the east of the block. To the north of this mass there are three solid blocks of masonry, of which the easternmost and largest is built in two sections.

To the west of the open space marked 90 is a block of masonry of the Late Period, on which is a stretch of pavement at a high level. Some distance to the east of this last there is yet another stretch of pavement at a rather lower level.

The presence of these walls and pavements, all in a sadly mutilated state, suggests that this portion of block B was at one time occupied with buildings. It is probable that in ancient as well as modern times this portion of "L" Area served as a quarry for brick robbers.

Section C.

Section C, which is separated from section B by a street running E.-W., is divided into two blocks (Nos. 4 and 5), and is the most interesting part of the "L" Area. This portion of the mound is fairly level, with the result that comparatively little denudation has taken place and the doorways of the various chambers are more or less intact. Fortunately, but little remains of the late buildings that probably covered this section. I have, therefore, been able to examine the structures of Intermediate date more fully than would have been possible, if they had been cumbered with top material.

Court 82 in block 4 is bounded on three sides by an early wall. There was probably once a wall to the east also, but no trace of it remains and one can only conclude that it has been washed down the side of the mound which is fairly steep at this point.

On the remains of a chamber (85) on the east, there is a well preserved well, 7 ft. 5 ins. in diameter, lined with wedge-shaped bricks, but it has not

yet been cleared out. To the west of the well there is a cross-wall and further west, again, a mass of masonry, both of Intermediate date. This latter is part of the massive burnt brick filling of the court, that we had partially to remove in order to examine the walls. The exact object of this brick filling is difficult to determine; it may have been provided to form an exceptionally firm foundation for a building above it that has now disappeared.

In chamber 83 are some remains of paving of the Second Period, which before being cleared were entirely covered by the filling just mentioned.

The northern portion of block 4 was originally a very large hall of early date, which appears to have been entirely covered in, the roof being supported by twenty rectangular piers averaging 5 ft. by 3 ft. 4 ins. in thickness. Owing to alterations which were made in the intermediate period, all of these piers cannot now be traced, but we have undoubted evidence that originally there were five piers in each row; two rows on the western side of the hall are intact. The two eastern rows are not so well preserved, but traces of two piers still remain in the row on the extreme east, and four in the row next to it. All these piers were of practically the same size, except those in the row on the extreme west, which are slightly thinner in the E.-W. direction. The lay-out of the piers is remarkably accurate. (Pl. XVII, *a*).

Each row of piers rests on a footing, or continuous foundation wall, running from north to south, which averages 1 ft. 2 ins. high and projects 6 ins. beyond the eastern and western faces of the piers. These foundation walls are very roughly built with irregular and undulating courses. The piers, however, are of quite good workmanship.

In the northern portion of the western side of the hall, (25) are two strips of paving of intermediate date between the wall and the first row of piers. The strip against the western wall is only 1 ft. 11½ ins. wide. The parallel strip is 2 ft. 10½ ins. wide. In both, the paving is especially well preserved at the south end, where there is a cross pavement upon which has been placed the wall of Intermediate date, which here partitions the original hall. Each strip of pavement is bordered with bricks set on edge, as in the bath rooms of this and other parts of Mohenjo-daro.

There are similar strips of pavement in the two next aisles (Nos. 24 and 23), and the easternmost pavement of all is 3 ft. 5½ ins. wide. These strips also are carefully bordered with bricks set on edge. In each aisle there is a strip of sunken, unpaved ground between the pavements, the meaning of which it is difficult to fathom. These unpaved strips average 3 ft. 6 ins. in width and have a roughly built edging of bricks placed as headers, which seems to have been provided solely to prevent the bricks at the edges of the pavements from collapsing into the unpaved portions. Viewed from a modern standpoint, these unpaved portions would serve well as flower beds, but it is hardly possible that they were used for this purpose in ancient times. It has also been suggested that the spaces between the pavements were at one time raised and used as benches. If this had been so, some trace of them

would surely have been left, for though a great deal of destruction has taken place in this hall, but little attempt has been made to remove the paved walks, which might have been expected to suffer as much as the supposed benches.[1]

The pavements in rooms Nos. 26, 27 and 28 on the southern side of the partition wall of Intermediate date mentioned above were laid at the same time as the strips of pavement just described. (Pl. XVII, *b*). In chamber 27 a quantity of conch shells mixed with pottery were found at a level of 2½ to 3 ft. above pavement level, together with a carved bead which is pictured on Pl. XVIII, No. 11.

This pillared hall, like which nothing else has been found in the other excavated portions of Mohenjo-daro,[2] seems to have been practically square. The wall upon its eastern side had been destroyed, but taking into consideration the fact that it could hardly have extended much further to the east and allowing for its being the same distance from the easternmost row of piers as the western wall is from the western row of piers, we can estimate the size of the hall to have been 87 ft. 6 ins., N.-S., by 85 ft., E.-W.

The substantial nature of the brick piers suggests that the roof was very heavy. Indeed, the beams which supported it must have been over 14 ft. long.

Very little of value was found in this pillared hall. Two seals, however, were unearthed and cones and model animals of pottery were common. Nothing at all was found that helps us in the interpretation of its use, beyond the fact that in the later period after the hall had lost its importance, shell workers left behind them a large quantity of their material. Shells and pieces of inlay have been found at a level well above the paved walks of the intermediate period and the partition walls by which the hall was then sub-divided. On Pl. XVI, *a* will be seen a photograph of the northern end of this hall.

Block 5 was probably an annexe of the block just described. It is composed of numerous small rooms of comparatively little importance and, therefore, merits little attention in this brief report. I should, however, mention that in chamber 6 a large stone was found, apparently *in situ*, measuring 2 ft. × 1 ft. 7 ins. × 1 ft. 2½ ins. It is a natural boulder with a flat and polished top, and possibly used by a sandal-maker or leather cutter. The chamber was filled up with a quantity of broken brick mixed with other débris, pottery fragments and a large amount of slag, probably the residue of a brick kiln.

To the north of these rooms is what is perhaps the most interesting structure in the whole of "L" area, a wall of the earlier intermediate period which now measures approximately 13 ft. 2 ins. in thickness at its south-eastern end, but was probably once much thicker as the northern face has been

[1] This argument is hardly convincing. The benches may have been constructed of less durable materials and in any case would have suffered more than the paved aisles between them [Ed.].

[2] It exhibits, however, certain features in common with the great halls at Harappa, described below (pp. 97 sq.) [Ed.].

destroyed. At the western end this wall appears to be no less than 28 ft. thick, an almost incredible size. I have made cuttings in it to ascertain whether it contained chambers or a filling, but it has proved to be solid brickwork throughout. It may be a substructure, the rooms upon it having disappeared.

SECTION D.

This section is separated from section C by a street (40), averaging 9 ft. wide, at whose southern end is a mutilated brick drain. (Pl. XVI, *b*).

At this point the street is flanked on the east by a wall of Intermediate date, opposite which is a short stretch of wall that is continued towards the north by a narrower wall of late date, 3·2 ft. high. Proceeding north, the eastern side of the street is flanked by a thin wall, 1 ft. thick, which was built to form chambers 30, 31, 32 and 33, which are of little interest.

Section D is separated into three blocks by thick walls of the Second Period. Block I is self-contained and surrounded by intermediate walling on all sides, except on the southern side where the wall is of early date. Unfortunately, owing to much denudation and brick robbing, but few of the doorways remain, the greater part of what is left being merely the foundations of walls.

At the western end of Chamber 42 there is a ring of bricks, 2 ft. 2 ins. in diameter, which was probably built to serve as a jar-stand.

Chamber 44 is a long narrow apartment of Intermediate date measuring 62 ft. long by an average of 10 ft. wide. Its eastern wall is very indefinite owing to alterations. At the southern end of the chamber there is a well-constructed bath of bricks which have been cut down from a larger size with a saw. In the middle of the chamber, a little north of the bath, is a fragment of the original paving. No less than thirty-five conch shells were found in this chamber above pavement level, many whole and others partly sawn up. Except for these, the chamber contained nothing of importance.

Chamber 45 was originally a pillared hall of the intermediate period, four of whose piers have been partially incorporated in later masonry. Possibly yet more piers will be found, when the later constructions have been removed. In this chamber there are five circular pits, averaging 2 ft. in diameter inside, which were evidently made to hold large storage jars. That they are of Early date is proved by one of the piers actually resting on one of them. The best preserved pit contained a number of egg-shaped pieces of clay of unknown use, all very much of the same size and averaging 4 ins. long by 2½ ins. in diameter.

Chambers 47—52 are of interest only from a technical point of view, and will be described fully in the forthcoming Memoir.

The long narrow Block 2 is in a more elevated position and better preserved than the Block to the east of it. It is mostly of the Intermediate Period. In the street to the north of it there was found the broken seal figured on Pl. XVIII, No. 2.

Chamber 56 has a well preserved doorway in its south-western corner. At one time chambers 56 and 59 formed a single room which was sub-divided by a thin partition wall, which seems to have been built shortly after the construction of the chamber and before its pavement was laid. In the south-eastern corner of No. 59 there is another doorway which seems to have been cut after the erection of the partition wall. Chamber 55 has two doorways, one in its southern wall and a second opening into chamber 61.

Chambers 60 and 61 were originally one apartment. In chamber 60 a quantity of wheat was found lying on a pavement of the Second Period. This wheat was possibly stored in a basket, of which all traces have long disappeared. The wheat itself is badly carbonized, but the majority of the grains were whole.

On the eastern side of chamber 62 there is a small staircase of four treads, which seems to have been built at the end of the Intermediate Period and subsequently repaired.

Chambers 53, 64, 65 and 66 were probably made by dividing up a single room by partition walls.

Chamber 67 properly belongs to the block, as there is a doorway leading into it from chamber 63.

In the space marked 80 there is a well, 5 ft. 10 ins. in diameter, which is constructed of wedge-shaped bricks. The steening of the well is only a single brick in thickness, *i.e.*, 10½ ins.

Block 3 has been sadly denuded and but little remains of its original buildings. It is, nevertheless, of interest because of the unusual objects that have been found in it. Court 69 is a large open space of Intermediate date, whose western wall is considerably out of alignment. On its southern side there is a well built doorway with exceptionally well preserved jambs. The filling of this chamber was a mass of potsherds, evidently the residue of a kiln. Very few of the jars were whole, the majority being in pieces or so twisted in firing that they had been thrown away. All this pottery was of the Late Period and had been made after the chamber fell into disuse. Other objects were found among this waste material, such as pieces of inlay, pottery animals, etc., all broken and evidently thrown away.

Chamber 68 is entered from opposite the steps in chamber 62.

The space of ground represented by numbers 70, 71, 72, 73 and 74 has various constructions scattered over it that have suffered greatly from the depredations of brick robbers. The most interesting of these is a row of three columns of rectangular shape, to the west of which lay three more or less perfect limestone rings in a row, together with the fragment of a fourth. The workmanship of these rings, whose use has still to be determined, is somewhat rough. In chamber 72 there was found the broken seal that is illustrated on Pl. XVIII, No. 3, and the headless statue of alabaster shown in Pl. XIX, Nos. 7, 8 and 9; the latter is 11·5 ins. high.

The little group of rooms on the southern side of this large space concludes my description of "L" area. The southern wall of chamber 77 is

especially interesting, as it shows the work of three periods. The greater part of this wall, however, is of Intermediate date. The head of a statue, 7·75 ins. high, in yellow limestone was found lying on the top of a drain in this chamber. (Pl. XIX, nos. 4, 5 and 6), which was of late date.

HARAPPA.

By Mr. Madho Sarup Vats.

The entire cold season from the middle of November, 1926, to the middle of March 1927, was spent in exploring the mounds F and A at Harapaa. Altogether an area of about 5,600 square yards was brought under the spade and numerous minor antiquities, including some 350 seals and other inscribed objects, were discovered. The purpose of the operations in mound F, which absorbed the greater part of the funds and time during the past season, was a twofold one, *viz.* (1) to determine the full extent and nature of the structure comprising the two series of parallel walls, of which nearly the whole of the eastern series and a portion of the other had been uncovered in 1924-25 by Rai Bahadur Daya Ram Sahni, and (2) to ascertain the stratification of the site.

To achieve the first object it was necessary to extend the excavations all round the area exposed in 1924-25, so that the total area so far tackled at this place measures 207 feet from north to south by 177 feet from east to west. The extent of the western series of walls was at once determined by sinking a deep, narrow trench backwards and forwards at right angles to the western ends of the walls exposed in 1924-25. Each of the two series, as at present uncovered, embraces an area of 168 feet from south to north by 56 feet from east to west, separated by an open passage 23 feet in width (Plate XX, *b*). My excavations have resulted in the addition of one thick and one thin wall at the northern end of the eastern series, about which the Rai Bahadur writes "These walls exhibit two distinct types, namely, a stouter kind and a thinner type. The former type is 9 feet in width in the lower portion which is composed of clean, indurated clay obtained from the bed of the river and secured on all sides with retaining walls of burnt bricks. The upper portion is built solidly of burnt bricks, the total extant height of the walls being 8 feet. The thinner walls have no clay core but are constructed throughout with burnt bricks. All these walls rise from an uniform level at the depth of 12 feet below the surface of the mound and have finished ends towards the central aisle. At the other extremities, however, they are somewhat broken and it seems as though they will be found to extend further out, but to what distance, has yet to be ascertained. It is curious that the walls of the thicker type are ranged approximately at equal distances from each other, the intervals being 17 feet to 18 feet, and, had it not been for the thin walls which intervene between them, it might have been thought that they enclosed a series of spacious rooms". The western series consists of 12 parallel walls, of a uniform length of about 52 feet, arranged in six

pairs with corridors between, of about 17′ 5″, alternating with five narrower corridors of about 5′ 4″ in width. For convenience of reference the former have been designated I, II, III, etc., and the latter *a*, *b*, *c*, etc., on the plan. The extremities of the north and south walls of the corridors I and VI were further secured by the addition at the sides of solid masses of masonry which are much more substantial on the south. The eastern and western extremities of all the six parallel pairs are uniformly partitioned into four narrow slits, 1′ 6″ wide, by means of three stout masonry piers finished on the outside but broken on the inner face. They are 3′ 9″ thick and originally appear to have been 7′ long, that is to say up to the points of the flanking projections near the ends of the main walls.

All the narrow slits on the west were closed by small battered buttresses whose foundations end 1′ 8″ above the foundation of the walls and piers. On the other hand, the narrow intervals, *a*, *b*, *c*, etc., are all closed on the east by stout walls of a uniform thickness of 3′ 9″ and left open on the west (Plate XX *a*). That is to say that, while the narrow intervals are left open on the west, the slits between the parallel walls and piers in the wider intervals are left open on the east, towards the open passage which separates the eastern from the western series. A peculiar feature of interval No. VI is, that the western but not the eastern ends of its walls and piers are battered; and, to reinforce it further, a retaining wall with its angle at the south-west corner was built parallel to it on the south and west at a distance of 5′ 3″. At its best preserved portion the retaining wall is standing to a maximum height of 3′ 7″ and has a slope of 1′ 10″ in 18 receding courses. It has no inner face. In the eastern half it was found to be more and more fragmentary and disappeared at a distance of 42 feet from the south-west corner, while towards the north it is still partially buried under débris and appears to be well-preserved up to the middle of interval No. V. The parallel walls and piers, etc., of this series are standing to a uniform height of 3′ 10″, but at the east end, these and the closing walls of the narrow intervals, *a*, *b*, *c*, etc., rest on a common broad wall with which they are bonded. This foundation wall is 3′ 4″ wide and 1′ 4″ high and runs under the entire length of the series from north to south.

Comparing the two series, it will be noticed that the broad intervals, I, II, III, etc., and the narrow intervals, *a*, *b*, *c*, etc., of the western series correspond with similar spaces in the eastern series, while the battered buttresses on the west of the former have their counterparts on the east of the latter; that, while there are three piers at the extremities of the broad intervals, I, II, III, etc., the corresponding spaces in the eastern series are actually occupied by some full length walls running parallel to those flanking the wider intervals; that the narrower intervals, *a*, *b*, *c*, etc., although filled with indurated clay like their counterparts on the other side, are closed by stout walls at the east end and have no burnt brick superstructures above them; and that the last two walls on the south of the eastern series, whose foundation ends at a considerably higher level, have nothing to do with it.

The area covered by the western series disclosed several later foundations of massive brick walls of the third stratum, which, though far too fragmentary, are in most cases at right angles to each other and stand at random over parts of the larger and narrower intervals. It is noteworthy that while the narrower intervals are filled with pure hardened clay, the wider ones were filled with earth mixed with brickbats and potsherds. Portable antiquities were very scarce in this area and the only finds of this nature were a few earthen vases, terracotta toys, three seals (2981, 3611 and 3644), a stone mace-head and a few objects of steatite and faience. Although the purpose of this building is entirely shrouded in mystery, the great paucity of finds suggests that it was not a domestic building in the ordinary sense. Further clearance of the two series will be resumed and their complete plan published later.

The excavations around the two series of walls described above yielded some of the most important minor antiquities of the season. Five strata of buildings, one above the other, were recognized in this area. The parallel walls belong to the fifth or earliest level. The upper strata were found in a most fragmentary condition and revealed no structures of any interest except a single small dwelling which came to light in the fourth stratum.

In the northern section of the eastern expansion of the above excavation are several rooms of the third and fourth levels. In a room of the fourth stratum was found buried in a paved corner a common earthen jar filled with loose greenish earth, while in another room resting partly below a party wall was found a large earthen trough painted with black bands. A few finds worth recording in this section are a finley finished crescent-shaped pendant of faience, a highly polished flint ball, a well-preserved copper spearhead and a terracotta measure (?) (*topā*) for corn. If there are relatively few buildings in the southern portion of the eastern section of this area, their absence is compensated by many minor antiquities. These comprise two spearheads (503 and 181), a fish-hook (1057) and a solid bangle (2147) of copper, six unicorn seals (945, 180, 2540, 272, 474 and 781), and seven cylindrical sealings of faience and terracotta, four of which show on one face a large acacia tree with a platform round its base (Plate XXI *a*, 1*b*), and three a crocodile. Besides these, there are four other terracotta sealings which are more than usually interesting. No. 5 (649) is rectangular and measures 1·13/16″ × ½″. On the obverse, to the left, are a man armed with a sickle-shaped weapon and a woman with upraised hands; to the right, an inscription. On the other side, is a woman, upside down, with a plant issuing from her womb. two rampant lions facing each other, and the same inscription as on the obverse[1]. Plate XXI *a*, 5 *a*, 5 *b*. No. 10 (1245) is a circular terracotta sealing (diameter 1″) showing a humpless bull and a symbol in upper field. No. 3 *a—c* (2409) is a three-sided tapering

[1] The woman, upside down, with the plant issuing from her womb is clearly the Earth Goddess, to whom, it may be presumed, the woman on the other side of the sealing is being sacrificed. The two standing lions are "genii" officiating at the ritual, as such animal genii are often depicted in Mesopotamian and Minoan Art. In the illustration (Pl. XXI) the seal itself is upside down. [Ed.]

prism[1] (ht. 15/16″) with a pivotal hole at bottom. On each of the three sides stands a mythical figure with the common U pictogram near the legs. The figure in the central face appears to be female with animal legs, while those on the remaining two sides are mythical beings with bovine (?) legs. No. 2410 (Plate XXI *a*, 1*a*) is convex on both sides and 15/16″ long. It shows a man wearing a feathered hat and standing under a highly ornamented arch. His head is turned a little to right, while the left leg and foot are placed slightly forward. He appears to wear a number of armlets. The sides of tne arch are throughout ornamented with loops surmounted by triangles while each of the lower voluted ends encloses a star[2]. The other side is inscribed with three pictograms.

The western extension yielded a small dwelling house of the fourth stratum (Plate XX *a*). Its northern outer wall has completely perished. There are three rooms on the south, while on the west there was a fairly large rectangular room with a narrow chamber at its back, the north-eastern portion being occupied by the courtyard. In the room at the south-west corner of this house was found a rectangular terracotta sealing which shows, on the obverse, an animal resembling the so-called "unicorn", but provided with two horns instead of the one usually portrayed (Plate XXI *a*, 18). On the other side are four pictograms. Just east of this house is a masonry sink 2′ 1″ × 1′ 10″, which was filled with pointed *lotas* and potsherds. The buildings to the south of this house are very fragmentary, but revealed a number of jars along their east outer wall but some of them also stood inside the rooms. Finds worth recording from this section are a celt (3290), two spear-heads or daggers (3291 and 3373) one of which is leaf-shaped, and two inscribed rectangular tablets of copper (1416 and 2165), one seal decorated with a figure of unicorn (1200) and another with that of an elephant (1692), a crocodile sealing (1459), Plate XXI *a*, 8; a triangular faience sealing (3855=Plate XXI *a*, 19), and an oval cage of clay 3826 *a*.

The southern section of the area revealed numerous interesting antiquities. They included thirteen seals with the unicorn device, the smallest (2962) being 9/16″ square and one with the figure of a bull (2415); another seal (fragmentary) with a composite monster (2453) which combines elephantine and bovine features (Plate XXI *a*, No. 11); and five of paste, *viz.*, three rectangular (2868, 3484 and 3678) and two prismatic (3341 and 3534) inscribed on all the three faces. There were six sealings of faience and two of terracotta; four of the former are noteworthy. No. 271 is a *svastika* sealing Plate XXI *a*, 9; No. 2608 resembles a fragment of a bangle decorated with a foliated twig (?) on both faces; No. 2701 has the shape of a date seed and is inscribed on either side of the central groove; while No. 2276, which was found in a small but substantial rectangular room about the middle of this area, shows on either face pictograms and a well-carved goat looking backwards (Plate XXI *b*, 44 and 45).

[1] *Cf.* R. Pumpelly, *op. cit.* Volume I, Pl. XL, 8.

[2] The figure beneath the arch may be either male or female. There are no evidences of sex. The headdress is three-pointed, but not necessarily feathered. The arch appears to be formed of the lent bough of a *pipal* tree (*ficus religiosa*), of which there are other examples at Mohenjo-daro. [Ed.]

Two ear-rings of copper wire were also found here (2424 and 3642). The western portion of this section disclosed large quantities of bones mixed with terracotta nodules and ashes from 10′ to 14′ below the surface of the mound, while in subsquares I-9/8, 18 and 19, a few feet south of the western series of parallel walls, were found two long semi-fossilised bones (2582 and 2596), a fossilised horn, a fragmentary antler and other bones, some of which appear to be in the process of fossilisation (2752). About 20′ of the long trench, near the south-east corner of the area occupied by the parallel walls, which had been excavated by Mr. Sahni in 1920-21 were also deepened. Standing against a wall of the third level from the top near its eastern edge was discovered a large open-mouthed cylindrical earthen jar (299) filled with a loose, greenish substance, probably the decomposed remains of some cereal. Opposite to this and partly buried below the other edge of the trench was found, at a depth of 11′ 2″, a hoard (2535) comprising 27 coarse terracotta vases, 17 of which are scratched with a cross, chert scrapers and a copper rod.

In the northern section of the trench containing the parallel walls, several interesting objects were found. No. 1136 is a curious four-chambered hemispherical terracotta object, 6¼″ in diameter. It has a circular socket at the back suggesting that it originally rested on a miniature base. No. 2438 is an almost hemispherical object of yellow Jaisalmir stone, 7″ in diameter. The outer surface and the lower edge are well polished and the apex is pierced with a hole, 1″ square, across the thickness for a shaft of some kind. Lastly, may be mentioned a number of pottery vessels found about 20′ east of the north-western edge of the excavation (Plate XXIII *f*). The collection includes oval-shaped *gharāś* of coarse clay, some bigger ones, tall *martabān*-shaped vases and basins. It is noteworthy that these vessels, like another lot to be mentioned below, but unlike those usually met with at Harappa and Mohenjo-daro, have flat bottoms.

Trench I.

Simultaneously with the clearance of the two series of parallel walls, a trial trench measuring 224′ by 15′, running south to north, was sunk in the eastern portion of mound F. As the digging advanced in depth, the trench had to be widened from time to time, so that the maximum width varied from 31′ to 68′. The depth of the excavation also varied in different parts of the trench according to the remains of the several strata brought to light. The greatest depth attained was about 30′ below the surface of the mound. Below that point the ordinary soil gave place to sand at a level identical with that of the sand in the old river bed adjoining this mound.

Eight strata of buildings have now been brought to light in various parts of this trench. At the southern end of the trench are two *kachcha* rooms of the 3rd stratum, lying east to west, and separated by a narrow passage, 2′ 5″ wide. Perched over the west wall of the eastern room is a fragment of a later wall. The thickness of the east and west walls is about 3′, those on the north and south being not more than 1′ thick. The stouter walls appear to

have been built of lumps of wet clay obtained from the river close by, the lower portions being composed of brick-bats; the thinner party walls are made exclusively of sun-dried bricks on a foundation of rammed clay. The rooms were thickly plastered with mud both inside and out and their true character has been revealed by patches of plaster having peeled off the inner face of the eastern room.

In the southern half of this trench attention may be called to two neatly built pilasters of the 5th stratum and to a stout wall of the 6th stratum running east and west across the trench and buried under a wall of the 5th stratum. The northern part of this section of the trench is of special interest, as some of the most important finds from Harappa were made here. Among these are Nos. 113, etc., and 277. The former comprise six seals, nine cubical weights, four conch shells, terracotta beads, bangles and vases; four of the seals exhibit the unicorn, the fifth is rectangular, plane on one side convex on the other, while the sixth, which is broken above, shows a procession of seven figures wearing tunics and marching from right to left. In front of the procession is an inscription in two lines (Plate XXI *a*, No. 4). No. 277 is a well-preserved round copper jar (ht. 9½"), covered with an inverted dish. Its heavy weight proclaimed the presence of metal objects inside. The lid was very tightly jammed; and a hole had to be cut in the top before the contents could be removed. These comprised as many as 70 weapons and implements and some hollow and solid bangles, etc., in an excellent state of preservation (Plate XXII). The former consisted of 21 celts, three of which are fragmentary; 2 double axes; one arrow-head (?); 16 spear-heads; 1 saw; 2 lance-heads; 7 daggers, 2 of which are curved at the upper end; 2 choppers; a mace-head; 2 folded sheets of copper; a stylus; the beam of a weighing scale; and an assortment of 13 chisels. Among other objects are 4 flat strips for the making of hollow bangles, 5 hollow and 4 solid bangles and one in the making, a cup, a semi-circular end piece, 4 thick rectangular pieces of copper and some lumps of corroded metal. Of these objects, two celts and two daggers are inscribed with pictograms. I am indebted to Mr. Sana Ullah, Archæological Chemist in India, for the following analyses. He writes, "the broken celt (*a* 21) is composed of bronze containing about 8 per cent. tin and the lance-head (*e* 2) is nearly pure (98 per cent.) copper. The black lump is the natural mineral 'lollingite' an arsenide of iron". Both of the above finds were made at a depth of 5′ 9″ below the surface opposite each other at a distance of 15′ along the edges of the original trench and may be assigned to the 2nd stratum. The celts resemble those found by me last year in the Vs. area at Mohenjo-daro. Mention may also be made here of the many celts included in the famous Gungeria hoard found in the Balaghat district of the Central Provinces, as well as certain other specimens from Bithur and Pariar in the Cawnpur and Unao districts[1] of the United Provinces and a number of other ancient sites in Northern India. It must, however, be observed that though the latter specimens are, like the celts discovered at Mohenjo-daro and Harappa, made of practically pure copper, they

[1] *Indian Antiquary*, Volume XXXVI, pp. 53—55, Pls. VI and VII.

differ in shape, being shorter and more or less prominently shouldered. No. 3821 is an interesting lot of pottery which consisted of 3 oval earthen jars with flat bottoms, 2 mutilated troughs and a crushed *mat*. Near them lay 4 medium-sized and 3 tiny cylindrical vases, one of which was perforated in the sides and had a larger hole in the bottom. At this same place were also found a number of broken and entire curry-stones, while another trough close by yielded 2 pointed *lotas* (470*a*) stamped with a number of pictographs possibly representing the potter's mark. This hoard lay 5′ 8″ below the surface and is also assignable to the 2nd stratum. At a depth of 15′ below the surface and in connection with the 5th stratum were found numerous fragments of circular and extremely thin lozenge-shaped seals of paste inscribed on both sides (Plate XXI·*b*, 38—42). At the same level, along the western edge of the trench, were found 2 ring-stands and a large earthen jar inscribed with 3 pictograms. Ring-stands of this type have already been found at Harappa and Mohenjo-daro. Those found by Mr. Rea at the pre-historic site of Adichanallur[1] in the Madras Presidency belong to a later age. Among other things of interest from this area are a seal with a buffalo (Plate XXIII *a*, No. 1) like the one which Gilgamesh is shown watering[2], a fragmentary rectangular seal of black soap-stone showing a man in a tree with a tiger beneath (Plate XXI *a*, 16) and 2 double convex sealings of faience, having pictograms on both faces and a standard placed athwart the writing on the reverse (80 and 2993).

North of the pilasters referred to above is a neatly laid rectangular floor (17′ 10″ by 6′ 8″) bounded by brick-on-edge with a backing of flat bricks. On the west it is supported by a solid wall, with one pilaster near the south-west corner and a large reveal 8′ 5″ long and 9½″ deep behind its general alignment. Immediately north of this is a thick wall, assignable, like the platform, to the 5th stratum, built promiscuously of burnt and sun-dried bricks; and above, a broken masonry sink fed by a drain of the 4th stratum.

Between the pavement referred to above and the cluster of buildings at the northern end of the trench was a large space marked by a depression of 2′ to 3′ below the adjoining level on the south and devoid of structural remains. This, being the most convenient place for deep digging, was excavated down to 30′, where it measures 22′ × 19′. The only structural remains disclosed here are a few walls of the 6th stratum, near one of which were found a large shallow trough, the remains of a pavement (?) and a feeble drain of the 8th stratum at depths of 23′ 8″ and 25′ 9″, respectively. Below this level the soil was undisturbed for 3′ and beneath it lay the deposit of sand referred to above. Numerous tiny seals of steatite whose length varies from 7/10″ to only ¼″ were found here between 10′ and 20′[3] below the surface, where the soil was hard and compact. These seals are very soft and the writing on some of them indistinct. Including copper objects and pottery, about 150 inscribed

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[1] *Catalogue of pre-historic antiquities, Adhichanallur and Perumbair*, Pls. VII and VIII.

[2] *History of Sumer and Akkad* by L. W. King, on binding cover.

[3] A few seals and sealings of the same small size and material were found at a higher level in the same area in 1924-25. [Ed.]

objects were found in this trench. The larger seals were mostly found up to a depth of 10′ below the surface. The tiny seals of paste are characterised by the absence of the pierced knob, and were also found in large numbers at the same level in the cross-trench No. III which was dug about 80′ further north. They are of various shapes, *viz.*, rectangular, oval, circular, rectangular with a rounded end, three-faced with a triangular section and four-sided. Others have the shape of a shield, lozenge, leaf or tiny hare. But, whatever the shape, one and all have one or more flat faces for pictographic legends. To the same class belong certain sealings of faience which are rectangular, convex on both faces, plane on one face and convex on the other, circular or cylindrical. Most of these tiny seals with two or three faces bear pictographs on one face and a symbol resembling the Roman numeral VIII or VIIII on the other, while the third face of the three-sided seals is generally inscribed with a row of three dotted circles. The second or third face on eight of them displays a crocodile, on three a fish, on two a standard and on one a diagonal cross (Plate XXI *b*, 20-37, 43 and 48). In one of the two hare-shaped seals (1203), the animal stands on all four legs; it is couchant in No. 1654, but both of them have a cross-shaped groove on the underside for attachment.

There are 32 other seals and sealings of larger size made of steatite, faience and terracotta. Among them nineteen exhibit a unicorn, two a bull bending over a trough (Plate XXIII *a*, 2), two a crocodile, one of which is preying on fish (Plate XXI *a*, 17), and one a *svastika*.

To the north of the deep digging is a confused cluster of fragmentary remains of the 2nd to 7th strata. Noticeable among these remains is a narrow paved gutter of the 7th stratum 1′ 7″ wide, running from west to east. It was choked with entire or broken earthenware vases, potsherds and bones, discoloured green. Immediately over this, rest two walls of the 6th stratum, to north of which is a thick wall of the fifth, and against it were found resting in two columns, one above the other, five jars badly crushed (851), while at the same level and in a similar condition were found five others in piles of two and three at the southern edge of the deep digging (3684 and 1087). In a fragmentary jar (3686) buried in clay against a wall near the northern end of the trench were found a large human bone, possibly the femur, lying horizontally, together with small bones, two triangular tablets, a small vase, two lids, a circular paste bead, potsherds, pieces of charcoal, and brick-bats. Among the most interesting examples of the potter's art yet found at Harappa are two jars, Nos. 1033 *a* and *b*, which were found embedded in an inclined position to the south and west of a broken pavement of the third stratum. The jar *b* was completely buried in the floor and fed by a small drain, while the other was only half embedded, its mouth projecting above a drain running eastwards. They are perfectly symmetrical and decorated with pairs of black bands on a ground of red. On the pavement was a curious little trough closed on three sides by single bricks standing widthwise and on the fourth by another brick standing lengthwise. Immediately south of this pavement is a broken reservoir (3′ × 1′ 10″) a single brick thick. Its north wall is

somewhat better preserved and stands to a height of 5′ 8″. The only other remains at this place which deserve notice, are a small brick pavement in the north-east corner of the trench, remains of a brick-on-edge floor which has subsided, and a large rectangular room near the north-west corner which appears to have been built in connection with the 4th stratum and repaired twice later. To the east of this room were found 10 terracotta sealings twisted in firing (Nos. 1646, 1791 and 2867). Three of them have a row of three standards on the reverse alternating with four vertical lines of tiny circles.

Among other objects found, a peculiar interest attaches to a very fragmentary, two wheeled miniature copper cart (Plate XXIII, *d*). The axle, wheels and the animal which were originally attached to it are missing. The cart is open, front and back, provided with shafts, and relieved on the gabled roof and side walls with lozenge and cross-shaped patterns; the driver is seated in front on a raised seat. Other interesting objects from this trench are a celt (384), and a spear-head (3015) of copper, half of a marble mace-head (573), two alabaster finials (?) and three biconical beads of agate (202) and *sang-i-abri* (518).

A general feature of this trench was the frequent appearance of thick and uneven layers of brick and terracotta nodules at all depths, such as were used at Mohenjo-daro for the foundations of buildings. Potsherds were comparatively abundant up to 8′ below the surface; they were less frequent in the lower strata and exceedingly scarce below 18′ from the surface.

About 80′ north of trench I were sunk two cross trenches 100′ × 20′, intersecting each other at right angles and designated on the plan by the number III. At the south-west corner, this area was dug to 8′ 4″, and the two main trenches from 11′ 6″ to 22′ 6″ below the surface. Fragmentary remains of seven strata corresponding with those in trench I were brought to light, the best preserved being the 4th and 5th. Potsherds were found in great abundance in the main trenches and a number of broken jars resting generally against bits of walls, in the south-west area. Among the latter, jar 3925 (ht. 3′) contained 7 cylindrical vases, 7 complete and 48 fragmentary pointed *lotas* and numerous fragments of cylindrical, oval, and other vases, tablets, balls, lids, and toys, 2 shells, 2 fragments of an ivory rod, bones and traces of decayed wheat. Unicorn seals, a few sealings and tiny seals of paste like those referred to in connection with the deep digging in trench I were picked up at all depths; they were most abundant in the western and southern arms of the trench. This part of the site appears to have been much disturbed, as many of the seals and sealings were found broken. Two of them deserve special mention, *viz.*, Nos. 2262 and 2785 (Plate XXI, *a*, *2a* and 12). The former is a terracotta sealing, plane on one side and convex on the other, showing on the obverse a standard[1] similar to those found under the heads of animals in the seals with the unicorn device, with a man to right, probably holding the standard. To the left of the staff is a pictographic inscription.

[1] The so-called 'standard' is probably an incense-burner. [Ed.]

The reverse of the sealing exhibits a similar standard with pictographs on both sides of the staff Plate XXI, *a*, *2b*. The other specimen (2785) is a thick, unfinished black soapstone seal with the unicorn device. It has no boss at the back. The upper field is plain, the legend being inscribed on the upper and left edges. In both cases there is a blank space at the left end suggesting that the script was written from left to right. Other finds comprised an "L"-shaped copper object (2078), an ear-ring (2326), a paste fish, a terracotta figure of a seated female kneading flour in a shallow rectangular vessel (Plate XXIII, *c*), the forepart of a stone mongoose (2086) and a large cone of greystone resembling a *linga*, 15¾" in height and 9" in diameter. It is much larger than the one found by Rai Bahadur Daya Ram Sahni in another part of this mound in 1924-25 and was lying on one side close to the south-west corner of this trench, absolutely unconnected with any kind of masonry. The entire surface of the cone is plain and smooth, the underside being only chisel-dressed.

On mound A, the gabled drain uncovered in 1924-25 up to the ends of pit No. I, was followed up further east and west, its total length exposed being about 130′. Abutting on the south, at its western end, were found four large earthen jars. Two of these belong to the third stratum; the other two enclosed in brick reservoirs are in the fourth stratum and were laid in connection with the gabled drain. The spill water from the eastern jar flows through a shallow drain into the western jar, from which it was discharged by an overflow channel into the gabled drain. The western jar is also fed by a well built drain which is beginning to show itself under the southern edge of the trench. West of this point, the drain is roofed for a few feet with flat bricks. The group of curious rectangular chambers built along the north of a long stout wall must have been served by the same drain. One of the later jars, only half of which has survived, was found filled with decayed wheat. To its west and north are brick structures of the 4th and 5th strata open on one side and paved with brick-on-edge.

The drain referred to in the above paragraph came to an abrupt end on the east side. 4′ 4″ below its level, however, my recent excavations brought to light a large and well built gutter laid in a solid mass of sun-dried bricks and neatly paved with brick-on-edge over a bed of flat bricks. It is 2′ wide and 2′ 3″ high, and like the drain above, runs from west to east. For 100′ it runs under the drain, then turns round, widens out and is ultimately lost in a great mass of débris. At the eastern end the gutter was tunnelled to about 15′, and found completely choked with earth and potsherds discoloured green. The majority of them were pieces of pointed *lotas* which appear to have been used as drinking vessels and thrown into the gutter after use.

Pits I and II, which were sunk in 1924-25, were linked up and dug to an average depth of 10′. They measure about 120′ from north to south and 65′ from east to west, while the transverse trench with the drain, gutter, etc., is about 260′ from east to west and varies in width from 13′ to 34′. The buildings in the pits are very fragmentary and generally belong to the third stratum. In Pit No. II was found an excellent, painted trough, 2′ high and

1′ 10½″ in diameter (Plate XXIII, *e*). It contained a much decayed tortoise shell, a few other bones, beads and vases. Near the centre along the eastern cutting of the pits was found scattered a thick and uneven mass of charred wheat.

Several interesting antiquities were found in the pits and the long trench. Foremost among them are fourteen seals and sealings of steatite, faience and terracotta and two inscribed potsherds. Seven of the seals, including a specimen 2½″ square (3716), exhibit the unicorn device. The remaining seven include one with the figure of an elephant (3,371, Pl. XXIII, *a*, 3), one with an inscription round three sides of the border (2789), a paste seal of the Boeotian shield pattern, three sealings of faience, and one of terracotta. The latter exhibits on the obverse, a drummer in front of a tiger and three pictographs, while on the reverse is a row of five *svastikas* in separate panels with the same pictographs as on the obverse (Plate XXI, *a* 6 and 7). Among other objects are two spear-heads (1060 and 3276), a well-preserved stylus of copper (2551), a tiny squat crucible (1322), a large *sankha* cup (2714) and a ball with incised circlets, a pear-shaped painted vase of terracotta, the neck of a flanged jar (3882) oval at the mouth, with four pairs of holes in the rim, a broken cylindrical perforated vessel with a large hole in the bottom (2549) and three curious barrel-shaped hollow terracotta objects, flat at the bottom and holed at the top. As they are rubbed smooth on one side, they may have been used as flesh rubbers.

Finds.

Besides the portable objects mentioned above, the excavations revealed numerous miscellaneous articles of faience, shell, ivory, and stone. Those of faience include several deeply indented bangles, a hollow wavy cylinder, star-shaped nose rings, some pleasing varieties of knob-headed ear-rings, temple ornaments, heart and crescent-shaped pendants, beads, buttons and amulets, three miniature squirrels, four *couchant* rams, a fish, the neck of an ibex, tetrahedrons, cones, and an assortment of dainty and very tiny vases. The specimens of *sankha* comprise spoons, pierced convex discs, a fragmentary, wavy ring, chessmen, and various designs for inlay. Among ivory objects are sharp pointed styluses, rods with less pointed ends and a variety of baluster-like objects. Equally large is the variety of stone objects comprising beads, pendants and chessmen, biconical *sang-i-mūsā* objects, fragmentary shuttle-shaped polishers, cubical weights, stone balls, chert cores, wedges and scrapers, yellow stone lozenges, a granite disc, double convex discular mace-heads, an oval tablet of alabaster, and plain and wavy rings. There are a few large things of stone, among which are two finished and unfinished flint cubes (635 and 1095), and a large but squat chessman shaped object (755, height 5¾″, diameter 5½″).

Several painted vases were also recovered but only three of them are complete, each with a flat bottom. Of these, No. 1155 is round and splayed at the neck; No. 616 is a pear-shaped miniature vase, while No. 52 is reel-

shaped and has three holes in the rim for suspension. Of the fragmentary ones No. 1022 was apparently similar to No. 1155 and shows stars and birds in wavy clouds at the shoulder; No. 1230 is concave in the upper portion and convex at bottom, while 1231 is convex at bottom and tapers in the upper portion. On some painted potsherds which for the most part belong to vessels of considerable size, are the designs of a peacock, a duck and a deer, but the more common patterns are foliate, scaly and geometrical. Usually the decoration consists of a black paint on a red ground, but while the large storage jars and troughs are painted only with black bands, painting on the smaller vessels is more elaborate and consists of human and animal figures and floral and geometrical patterns.

Among terracottas the most interesting is the human figure No. 1451, but, unfortunately, it is split vertically. It shows a seated male figure wearing a necklace of four strings and a woollen loin cloth. Noteworthy is the criss-cross treatment of four braids of hair, two of which were curled on the back and one on each of the cheeks over the ears, as also the beard, and the receding forehead. Other human figures comprise men seated with legs drawn up in a devotional attitude, others squatting with their knees clasped in their arms, three nude figures, one of which is seated on a three-legged stool (1301), pregnant women, others suckling babies, one kneading bread (Plate XXIII, *c*) and another standing with her hands placed sideways over her hips. One of the female figures (3885*a*) wears a copper bangle on her arm. The animals are represented by rhinoceroses, elephants, lions, bulls, pigs, goats and dogs. There are also figures of squirrels, a sparrow, a parrot, a flying kite, a pigeon, swans, and doves. Other objects found were rattling balls (3679), toy carts, etc.

Altogether a sum of Rs. 30,631 was placed at the disposal of the Superintendent, Hindu and Buddhist Monuments, Northern Circle, for exploration. Out of this, Rs. 11,533 were allotted to the Public Works Department, Punjab, for the construction of a combined godown and rest-house at Harappa, Rs. 370 to the Deputy Commissioner, Montgomery, for the acquisition of mound D at Harappa, and Rs. 950 to the Deputy Commissioner, Karnal, for the acquisition of the ancient mounds at Amin and Theh Polar. Drawing instruments worth Rs. 1,090 were purchased for field work and the remaining sum, *viz.*, Rs. 16,656. was utilized for exploration of the mounds F and A at Harappa, cleaning apparatus and other petty contingent charges.

PATTAN MUNARA.

By Mr. Madho Sarup Vats.

This monument is thus described in the Bahawalpur State Gazetteer:— "Pattan Munara, or Pattan, also known as Fattan, or Pattanpur, lies 5 miles east of Rahimyar Khan Railway station, on the eastern bank of the old bed of the river Indus, locally known as the Sej, and is one of the most extensive ruins in the Bahawalpur State. The only piece of ancient architecture in the midst of these ruins is a tower which stood in the centre of four similar but

smaller towers all forming a Buddhist monastery. The four towers which were joined to the central tower at its upper storey existed in a dilapidated condition as late as the beginning of the 18th century, when they were pulled down by Fazl Ali Khan Halani and their bricks and stones utilized in making the new fortifications at Dingarh, Sahibgarh and Bhagla. At present only one storey of the tower is standing; but tradition asserts that it had three storeys. No one can say when the upper storey fell down, but the second storey was pulled down by Bahadur Khan Halani in 1740 A.D. and a brick was discovered which bore an inscription in Sanskrit showing that the monastery was erected in the time of Alexander the Great."[1] As no mention of Pattan is made by any Muhammadan historian, it appears probable that the place fell to ruins before their advent.

In 1882 Lieutenant-Colonel B. R. Branfill, who was unable to visit Pattan Munara personally, was informed,[2] "that it was a brick tower 62′ high and 12′ square at base, still standing, but much decayed throughout. It stands on a sand bank, near where a river once flowed, to the south of the mound indicating the site of an ancient town. A small low door on the west side gives access to a little vacant cell or chamber. The jambs, lintel and sill of the doorway are of (red sand) stone, carved with a row of deep rectangular incisions, and the remains of a lion's head in front of the sill. There appears to be another chamber in the upper storey. The walls are divided into arch-headed panels and ornamented with a course of carved bricks."

The present height of the Munara is only 29′ and, although it is much dilapidated, the monument still retains sufficient traces to show what it must have looked like. At the base the tower is 14′ square externally and 10′ × 8′ square internally, and has a doorway opening on the west which measures 10′ × 6′ 2″. The cella is empty inside and covered by a dome only 2′ in height. The second storey, which is ruined, has an arched window 7′ × 3′ above the doorway of the cella. The arch is of the usual Hindu pattern, constructed of horizontal courses overlapping one another until they meet in the centre. Flanking the base of this window are two large holes, 8″ square, which correspond to similar holes on the remaining three sides. They appear to have been meant for the insertion of wooden beams joined together at the projecting ends by crossbeams, over which were raised pillars for supporting the projecting parts of the four subsidiary *sikharas* corbelled out near the middle of the second storey. Decayed pieces of beams, which might have held together the lower frame-work fitted into the holes referred to, still exist on two sides of the tower. The vacant spaces at the corners, between the central and subsidiary *sikharas*, were occupied by tower-like constructions relieved by *chaitya*-roof and gable-mouldings, *chaitya*-arched openings and conventional lotus and cable mouldings (Plate XXXIV, *d*).

A little below the beam holes in the first storey are traces of ruined semi-domes which sprang from three large slabs of red sandstone, two of

[1] *Bahawalpur State Gazetteer*, 1904, pp. 376 and 377.
[2] *Indian Antiquary*, Vol. XI, 1882, pp. 7—8.

which project from the body of the tower. Over these rested semi-circular stone cornices and above them the semi-domes were built on the same design as the dome of the cella. Below each of the semi-domes is a double cornice of simple projecting courses, with a third one below the arched niches, which occupy the central projection on three sides. Above each of these cornices is a row of *chaitya*-roof and gable mouldings, while below the second is a frieze of conventional circumscribed lotuses, and between the second and the third a plain chevron ornament consisting of a series of shallow recessed squares. The mouldings on the lower parts of the walls are plain. What the outside niches contained, is not now known. The whole façade of the monument below the semi-domes is constructed of extremely well-rubbed bricks with such fine joints that they are scarcely visible among the patterns carved upon the brick-work. The comparatively rough surface between the semi-domes and the commencement of the curvilinear spires may have been covered with plaster but no indications of it have survived.

The size of bricks of which the tower is made, is 16″ × 9¼″ × 2½″. The friezes of *chaitya*-roof and gable mouldings, and recessed squares of the chevron decoration bear a strong resemblance to the carvings on the Lakshman brick temple at Sirpur in the Raipur District of the Central Provinces and to some extent to those on the famous brick temple at Bhitargaon in the Cawnpur district. The stone doorway and the lintel referred to in the *Indian Antiquary* are unfortunately missing, and there is nothing to indicate now the original purpose of the Munara. But the main *sikhara*, which was originally surrounded by four subsidiary spires, furnishes unmistakable evidence of the structure having been a Hindu temple of *Pancharatna* type, the like of which is not known elsewhere. According to the *Bahawalpur State Gazetteer* it continued to be used for worship until the beginning of the 18th century by the Hindu Rajas and Chiefs of Sindh, Bikaner and Jaisalmer who annually celebrated here the *Sivaratri* fair in the month of Magh.

Unlike the temples at Bhitargaon and Sirpur, the Munara stands on a solid mass of sun-dried bricks and has neither porch nor platform attached to it. It will be remembered that some of the later brick temples in the Cawnpur and Fatehpur districts also have no porches.

From the size of bricks, the nature of ornamental motifs and the extreme neatness with which the Munara was constructed, I am disposed to assign it to the later Gupta period. Compared with the Lakshmana temple at Sirpur which has been assigned with great probability to the 7th or 8th century A.D., the Munara is a much finer work;

TAXILA.

By Sir John Marshall.

During my absence for nine months on leave in Europe excavation work at Taxila was restricted to completing the clearance of several blocks of buildings of the Scytho-Parthian period in the city of Sirkap which had been left

in an unfinished state. This work was done very efficiently by my Excavation Assistant, Mr. A. D. Siddiqi. Between the North Gate of the city and what I take to have been the Palace of the Scytho-Parthian kings there are, on the east side of the High Street, eleven blocks of buildings, separated one from another by narrow side streets which run with somewhat striking regularity at right-angles to the High Street. Four of these blocks are fronted towards the High Street by sacred shrines—one a large Apsidal Temple, which was undoubtedly Buddhist, and the three other stupas, which may have been either Buddhist or Jaina, but probably belonged to the latter faith. For the rest, the eleven blocks consist of a multiplicity of chambers and courtyards. Whether these blocks were ordinary domestic dwellings or not, is a debateable point. Assuming that they possessed two storeys (and they must have possessed at least two), an average-sized block would have contained upwards of 200 rooms besides several open courtyards around which the rooms were grouped. Manifestly, therefore, they could not have been intended for single houses of an ordinary type. In a previous report I have suggested that they may have served a special purpose. In the days of the Greeks, Scythians and Parthians Taxila, as is well known, was a famous University city, and it is not an unreasonable hypothesis that this particular part of the city, which is distinguished by the symmetrical character of its lay-out as well as by the presence of many religious shrines, may have been the University quarter, and that these large blocks of buildings may have been tenanted by the different professors and their pupils. For we know that most branches of human knowledge then recognised as such in India—from the Vedas, law and medicine down to elephant-taming and cock-fighting—were taught at Taxila; and it was doubtless the custom here as elsewhere in India for pupils to make their home with their teachers. The suggestion, however, that these buildings were the residences of University professors is, of course, nothing more than a surmise. It is equally possible, and perhaps more likely, that they were just the ordinary residences of the citizens, each comprising a group of attached tenements with either a row of shops or a sacred shrine fronting the main thoroughfare. As the blocks now stand, their walls are for the most part only a few feet high, while here and there they have completely vanished. It will be readily understood, therefore, that it is no easy matter to determine the purpose to which these blocks were put, and the difficulty is rendered all the greater because at Taxila the ground-floor chambers were in the nature of *tahkhanas*, access to which was provided, not by doorways from the outside, but by trap-doors from the upper chambers, to which a stair-case appears to have ascended from the central courtyard. To take block H as an example. This is one of the blocks which, along with the adjacent blocks I and J, has been excavated during the past season. A plan of it, so far as it has been laid bare, is reproduced in Plate XXV, and a general view of it as well as of the adjacent block G, can be seen in the preceding Plate XXIV, *b*. In the plan I have indicated by Roman numerals and by narrow white lines in the thickness of the walls the seven larger or smaller dwellings into which it might, with more or less convenience, have conceivably been divided. According to this division each

of the seven dwellings would have had one or more open courtyards with a certain number of chambers grouped about them. But the reader will perceive at a glance that the suggested division into seven houses is anything but certain, inasmuch as the party walls are indistinguishable from the other interior walls; and he will also perceive that the block might equally well have served for one large house with several courtyards and their connected chambers, since the unit of all ancient Indian houses was the open court flanked or surrounded by rooms, and this unit was multiplied according to the amount of accommodation required. On the whole, the evidence at present available is in favour of some at any rate of these blocks in Sirkap having been large houses rather than groups of small tenements. The point, however, is still open to question. This particular block H may be taken to be fairly representative of the other residential blocks recently excavated, and it is therefore unnecessary to discuss the latter in detail; nor would it, indeed, be possible to do this without the aid of additional plans, which are beyond the scope of this report. There is one structure, however, unearthed during the past year that must not be passed over in silence. This is a large rectangular edifice of which the western end only has been cleared (Plate XXIV, *a*). It is on an altogether bigger scale and more massive in construction than most of the buildings on the Scytho-Parthian level. Indeed, its foundations are carried so deep, that at first sight it looks as if it must have ante-dated the buildings round about it; but a closer examination reveals the fact that it is actually later in date than its neighbours, its masonry being of the particular diaper pattern which was employed for all the most recent edifices on this site and which did not come into vogue until about the beginning of the Kushan epoch. Relatively deep foundations would, of course, be required in any case for the heavy super-structure which this building may be presumed to have had, but their unusual depth is explained also by the fact that on a site like that of Sirkap, where city has arisen on the ruins of city, it was necessary to penetrate through a considerable depth of accumulated rubble in order to find ground firm enough to take such heavy foundations. The same phenomenon is observable also in the case of the great Apsidal Temple in block D, the apse of which descends to a depth of some 18 feet below the floor level; and it is significant that this Apsidal Temple belongs approximately to the same date as the building FB which we are discussing. In the course of opening up the foundations of the latter the remains of some earlier structures were exposed which appertain to a lower stratum and which are not only oriented differently from the Scytho-Parthian buildings above them, but run underneath the street alongside the building FB, thus showing that at this point the lay-out of the earlier city did not correspond with that of its Scytho-Parthian successor.

In view of the wholesale disturbance of the ground which must necessarily have resulted from sinking the foundations of the building FB through earlier structures beneath, it would manifestly be unsafe to infer from their stratification the age of minor objects recovered in this digging. Judging, however, by its style it seems probable that the little female terracotta head figured in

Plate XXVI, 1, emanated from the lower stratum, since its modelling is more distinctively Hellenistic than would be expected among remains of the Scytho-Parthian period.

Of other small antiquities found during the past season in Sirkap, the most remarkable and the most valuable, let it be added, that has yet been found on this site, was a hoard of gold and silver ornaments and of silver vessels which was found buried beneath the floor of a room immediately at the back of the Apsidal Temple in Block D (Square 58·47′ at a depth of 7′ 6″). The gold objects, of which specimens are illustrated in Plate XXVI, figs. 3—13, are as follows :—

1. Two pairs of hollow gold ear-rings adorned with clusters of four drops and provided with hinged clasps. Diam. $\frac{7}{8}''$. (Plate XXVI, *3*).
2. Circular medallion of gold. Diam. $1\frac{3}{8}''$. Probably belonging to a fish girdle; face decorated with stellate design, encircled by cloisonné border. The centre and leaf-like points of the star are inlaid with rock crystal; the heart-shaped points and border with white stone. At the back, are three small rings on one side and a single ring on the other, intended for uniting the three threads of the girdle. (Plate XXVI, *4*).
3. 20 rosettes of gold with six petals in each, provided with four small hoops at back, probably for attachment to a garment. Diam. $\frac{1}{2}''$. (Plate XXVI, *5*).
4. Gold collar (*hansuli*), diam. $5\frac{7}{8}''$; hollow, with core of lac. The ends are closed with separate discs of beaten gold. (Plate XXVI, *6*).
5. Part of gold girdle of six pieces. Each piece consists of three fishes side by side, united on the underside by thin bars of gold. The girdle was strung on three threads, one passing through each fish from head to tail. Length of fishes $1\frac{3}{8}''$. (Plate XXVI, *7*).
6. Part of gold girdle of two pieces only. Length of fishes $1\frac{5}{8}''$. (Plate XXVI, *8*).
7. 4 gold beads of double fish form, pierced lengthwise. The two holes pierced in the fishes' heads meet together in the forked tail. Probably used as terminals of necklace. Length $\frac{3}{4}''$.
8. 5 pairs of 'crescent' ear-rings of beaten gold on a core of lac. Each is provided with hinged clasps of twin crescent design, and from each is suspended a pendant of granulated work with cluster drops. Ear-rings of similar design were found in Sirkap in previous years. Length $2\frac{3}{8}''$ to $3''$. (Plate XXVI, *9* and *10*).
9. Hairpin of silver with gold head. The head consists of a crescent resting on a small cube and surmounted by a *triratna* on lotus. Four drops of pearls on gold wire hang from the crescent and two from the *triratna*; and three circlets of gold with double rows of beading support each of the three component parts Length $6\frac{9}{16}''$, (Plate XXVI, *11*).

10. Pair of round gold ear-pendants. Diam. $1\frac{1}{4}''$. The face of each is adorned with a six-pointed star surrounded by concentric circles of beading, plaited wire, etc. In the centre is a raised circlet of paste; and paste once filled the cloisons of a fleur-de-lys at the top. From the base depend five plaited chains. (Plate XXVI, *12* and *13*).
11. Pair of medallion ear-pendants. In centre, turquoise stone inset in raised boss with beaded border, surrounded by 6-petalled flower and concentric rings of hemispherical beading, twisted and plaited wire. The hanging chains at base terminate in gold beads and heart-shaped leaves. The trefoil fleur-de-lys at top is the same as in the previous entry.
12. Gold necklace of 88 pieces. Each piece is hollow and pierced laterally at one end and through the centre. Length of necklace, $12\frac{3}{8}''$; length of each pendant, $1''$.
13. 4 pairs of hollow gold bangles on core of lac, provided with hinged clasps. Diam. from $2\frac{3}{4}''$ to $3\frac{1}{8}''$.
14. 23 plain tubular beads of gold, length $\frac{1}{2}''$.

Specimens of the silver anklets are figured in Plate XXVI, *14* and *15*, and of the silver vessels in Plate XXVII. They number in all 47 pieces, namely:—

1. 14 plain hollow anklets of silver provided with socket clasps decorated with floral devices. In a mutilated and fragile state. Diam. $4\frac{3}{4}''$ to $5\frac{1}{2}''$.
2. 4 hollow double-ringed anklets of silver; outer diam. $6\frac{1}{4}''$. The anklets are open in front and provided with a moveable socket or clasp, into which the two ends fit. The upper ring is fluted and relieved on the upper surface with three foliate bosses. Below each boss and connecting the two rings together, is a medallion centred with a human bust in relief. The moveable socket is decorated with a variety of floral devices. Between the rings on the front of the anklet is a small hoop, with a corresponding one on the socket clasp, evidently intended to be tied to it. (Plate XXVI, *14* and *15*).
3 Jug with round base and handle of knotted wire terminating in vine leaves. Inscription in Kharoshthi round neck:—*Ka 100. 20. 20. 20. 20. 10. 1 maharajabhra [ta-Maṇigula] sa putrasa Jihonikasa Chukhsasa Kshatrapasa.* "Ka 191. Of Jihoṇika (Zeionises) Satrap of Chukhsa, son of (Manigula, brother) of the Maharaja". Length $7\frac{7}{8}''$. (Plate XXVII. *1*).
4. 2 scent bottles of silver. The lids are attached to the neck by a chain and ring. Ht. $2\frac{1}{2}''$. (Plate XXVII, *2*).
5. 5 circular saucers or dishes of silver of varying sizes from $5\frac{5}{8}''$ to $8\frac{1}{4}''$. The bottom is flat, the edges curved outwards. (Plate XXVII, *3*).
6. 2 small silver cups with low base. Diam. $3\frac{3}{8}''$. (Plate XXVII, *4*).

7. 1 basket-like sieve of silver fitted with two ring-handles on either side. Inscription in Kharoshthi on its body :—*Gomadhyada-putrasa Jhaṁdanyamasa* "Of Jhaṁdanyama, son of Gomadhyada". Ht. $5\frac{1}{8}''$. (Plate XXVII, *5*).
8. 3 silver goblets with fluted bodies. Ht. $5\frac{1}{4}''$, $6\frac{1}{8}''$ and 7″, respectively. Many goblets of similar pattern, but of copper or bronze, have been found previously at Taxila. (Plate XXVII, *6*).
9. A circular sieve of silver with broad flat rim provided with hoop handle on underside. Diam. $6\frac{3}{4}''$. (Plate XXVII, *7*).
10. 2 circular and concave lids of vessels of silver, diam. $8\frac{1}{2}''$. In the middle of the concave (upper) side is a handle in the form of a fish soldered to the lid (apparently with copper). (Plate XXVII, *8*).
11. 2 circular silver bowls with low base, soldered to bottom. Diam. $7\frac{3}{4}''$ and $7\frac{7}{8}''$ respectively. (Plate XXVII, *9*).
12. 1 round silver dish with raised boss in centre, terminating in knob and surrounded by six incised concentric circles. Similar dishes of copper have been found at Taxila. Inscription in Kharoshthi on body reads :—*Miṁjukritasa sa 20.10 dha 1.1.* Diam. $8\frac{3}{4}''$. (Plate XXVII, *10*).
13. 5 circular shallow bowls of silver. Diam. $6\frac{1}{4}''$ to $6\frac{7}{8}''$. Two bear the same inscription in Kharoshthi, *viz.*, *Theudarasya Thavara-putrasya* = "of Theodoros, son of Thavara".
14. Silver jug with small ring handle attached to neck. Ht. 5″.
15. Rectangular plate of silver with raised curved rim, fitted on four legs, one of which is missing. The legs, like the bases of the goblets, appear to be an alloy of silver and copper—the copper being added, perhaps, for the purpose of soldering or welding. $8\frac{1}{2}'' \times 6\frac{1}{8}''$. Inscription in Kharoshthi reads :—*Muṁjukritasya sya 20 dra 1.*
16. 1 flat silver spoon with plain handle terminating in knob. Length $6\frac{1}{4}''$.
17. Piece of silver handle terminating in leaf design. Length $2\frac{7}{8}''$.

Whether the silver anklets illustrated in Plate XXVI, *14* and *15*, were intended to be worn by women or ponies, is uncertain. Such anklets are still to be seen decking the feet of horses in marriage processions, but they have been worn also from time immemorial by women, and many examples of them could be cited from ancient Indian bas-reliefs, like those of Bharhut and Sanchi. The geometric and floral devices worked in repoussé on these anklets are very rich and ornate. On the other hand, the silver vessels are for the most part very simple and chaste, and for that reason all the more attractive. The most ornate is the duck-shaped jug with vine-leaf handle (Plate XXVII, *1*). For the restoration of the inscription on it I am indebted to Prof. Sten Konow. Jihoṇika (Zeionises), who subsequently became Emperor, is known to have been the son of Maṇigula, but it was not known that the latter was the brother of the Maharaja. Dr. Konow surmises that the Maharaja referred to is Wima-Kadphises, in which

case the succession must have gone through his brother to his brother's son, according to a practice not infrequently found among the Western Kshatrapas. Presumably the numerical figures in this inscription refer to the years of an era. On the other hand in the inscription of Miṁjukrita (No. 12) the symbols *sa* and *dha* followed by the numerals 30 and 2, and the symbols *sya* and *dra* in No. 15 undoubtedly stand, as Dr. Konow has shown, for *Staters* and *drachmas*, and give the value of the vessels on which they are inscribed. The Satrapy of Chukhsa is mentioned also in the Taxila copper plate of the year 78 as being then under the Satrap Liaka Kusulaka, and is to be identified with the modern district of Chach.[1] Vases similar to the fluted goblets in Plate XXVII, *6*, have previously been found at Taxila, and a silver vase of the same kind was found by Mr. Hargreaves at Mastung in Baluchistan. It is worthy of remark, too, that precisely similar goblets are figured in a drinking scene depicted in a Gandhara sculpture at Mardan.

The fact that several of these silver vessels bear the names of different owners suggests that they may have been gifts to the temple, hastily buried, like the other treasures found in contemporary buildings, on the occasion of some hostile invasion.

Besides the above objects of gold and silver, several other small groups of antiquities were found in Sirkap. One of these groups (Sk. 2215), which was unearthed in block G (Sq. 110·52′) at a depth of 4′ 4″, contained the following domestic and other articles:—

1. Spatula-like object of copper with *triratna* handle. Length 7⅜″.
2. Hook-shaped object of copper with knob handle. Length 7⅛″.
3. Copper spoon with hoof handle and rat tail ridge. Length 6¼″.
4. Copper scent flask with three legs. Ht. 2¼″. (Pl. XXVIII, *1*).
5. Copper stopper with long necked animal, perhaps belonging to No. 4. Ht. 1⅜″.
6. Copper inkpot with serpentine handle and stopper; deposit of ink traceable at the bottom. Ht. 3¼″.
7. Copper ladle. Ht. 10″.
8. Copper goblet with stand, broken.
9. Copper cup with stand. Ht. 3¼″.
10. Copper bowl, broken. Diam. 6½″.
11. Mother-of-pearl shell. Length 2¾″.
12. Large iron scalepan. Diam. 6½″.
13. 4 iron ladles. Diam. 3¼″ to 4″.
14. 2 ivory playing dice. Length 3¼″ and 3½″.
15. 9 beads of agate, jasper, etc.
16. 262 shell beads.
17. 2 agate discs pierced with hole at centre. Diam. ⅞″.
18. 5 beads of glass, 4 of which are coral coloured, the other burnt dark gray.

[1] *Ep. Ind.*, Vol. IV, p. 55; *J. R. A. S.*, 1863, p. 147; *Ind. Ant.*, 1896, p. 174.

19. 2 circular and 1 rectangular copper coin, in much defaced and burnt condition. One appears to be an issue of Azes (lion and bull type).

Another group (Sk. 4429) found in block L (Sq. 189·70′), where a number of coin forger's moulds had previously been unearthed, comprised the following:—

1. 6 double-headed copper hammers, some of the heads rounded and others rectangular and flat. Varying in length from $2\frac{1}{2}''$ to $3\frac{1}{2}''$. (Plate XXVIII, *3*).
2. Copper hammer (?) with square flat head and socket hole for handle. Ht. $1\frac{5}{8}''$. (Pl. XXVIII, *4*).
3. 2 copper rings stuck together. Diam. 1″.
4. 3 iron wedges with socket holes for handles. Length $6\frac{1}{8}''$ to 5″.
5. Double-headed iron hammer. Length 5″.
6. Iron scale pan. Diam. 4″.
7. 2 pointed chisels of iron with flat top. Length $1\frac{5}{8}''$ to $3\frac{1}{2}''$
8. 2 iron anvils, square in section. Length $5\frac{1}{4}''$ and $6\frac{3}{8}''$.
9. Iron bar. Length 2′ 4″.
10. Iron chisel. Length $3\frac{3}{4}''$.
11. Pair of iron pliers. Length $3\frac{3}{4}''$.

Of other miscellaneous objects from Sirkap, the following also deserve special mention:—

1. Gold hoop finger ring: diam. $\frac{13}{16}''$, the projecting bezel, from which the gem is missing, edged with gold beading, with a second circlet of beading around its base. The ring is bordered on either side with fine plaits of gold wire, and the outside is further relieved with a double-headed scorpion-like figure in appliqué, the twin heads of which resemble the familiar *nandipada* symbol. Sk. 4136. Sq. 10·54′. Depth 5′. (Plate XXVI, *2*).
2. Miniature tripod bowl of bronze. Diam. $1\frac{5}{16}''$. Sk. 355. Sq. 134·65′. Depth 3′ 6″.
3. Terracotta figure of Kuvera (?) seated and holding animal in left arm. Wears a skull cap and two large ear pendants. The grotesqueness of the face calls forcibly to mind the figures in Mara's army on the North Gateway at Sanchi. Work of the Early Indian School. Ht. 3″. Sk. 4247. Sq. 13·47′. Depth 4′ 6″. (Plate XXVIII, *2*).
4. One copper oval signet engraved with a figure of winged running horse (Pegasus) to r. Provided with two ring handles on its back. Length $\frac{5}{8}''$. Sk. 1476. Sq. 145·48′. Depth 3′. (Plate XXVIII, *5*).
5. Copper signet with *nandipada* symbol and Kharoshthi inscription of five letters. Provided with a ring handle attached to its back. $\frac{5}{8}''$ square. Sk. 4263. Sq. 13·45′. Depth 4′ 6″. The inscription reads *Arajhaṁdasa*. (Plate XXVIII, *6*).

6. Square inscribed signet of copper, engraved with a figure of an ascetic sitting inside a hermitage with r. hand extended over fire in front. Inscription in Kharoshthi:—*Bramadatasa*. At back of signet are four rings for attachment. $\frac{7}{16}$″ square. Sk. 889. Sq. 139·56′. Depth 2′ 3″. (Plate XXVIII, *7*).
7. Copper seal with a figure of an animal running and looking backwards. Around upper rim, scalloped device. At back, handle pierced with hole. Diam. $1\frac{1}{4}$″. Sk. 2537. Sq. 106·50′. Depth 8′. (Plate XXVIII, *8*).
8. Volute bracket in form of winged male figure springing from acanthus leaf base. The figure is draped and turbaned, with ear ornaments. On the back side of the figure, Kharoshthi inscription in three sections:—*Savatrateṇa niyatito vihare matapitu puyae devadato.* "[This] pious gift was presented at the *vihara* by Savatrata (Sarvatrāta) in honour of [his] parents." Length $6\frac{5}{8}$″. Sk. 1457. Sq. 148·51′. Depth 4′ 6″. (Pl. XXVIII, *9*).
9. Winged male bracket figure of schist, springing from an acanthus leaf base. The figure wears *dhoti*, scarf, jewelled turban, ear ornaments and necklace. The volute bracket against which the figure rests, is fashioned to resemble a serpent with scaly surface and double head. Length $5\frac{1}{2}$″. Kunala Monastery, Cell E-8.
10. Double-cupped copper spoon. Length $8\frac{5}{8}$″. Sk. 67. Sq. 144·70′. Depth 4′ 4″. (Plate XXVIII, *10*).
11. Copper *triratna*. Length $8\frac{5}{8}$″. Sk. 2257. Sq. 111·50′. Depth 2′ 2″. (Plate XXVIII, *11*).
12. Red Mathura curry-stone with four legs ornamented on sides and legs with floral patterns in low relief. At one end the legs are set back and provided with *makara* brackets. Length 11″. Sk. 1804. Sq. 118·55′. Depth 2′ 4″. (Plate XXVIII, *12*).
13. Rectangular goldsmith's mould of grey stone with a lotus and other ornament sunk in the surface on one side $2\frac{1}{2}$″×2″. Sk. 2543. Sq. 106·50′. Depth 8′. (Plate XXVIII, *13*).
14. Scallop shell of uncommon size and shape, slightly damaged. Length $6\frac{3}{4}$″. Sk. 2215. Sq. 110·52′. Depth 4′ 4″. Dr. Beni Prashad of the Zoological Survey of India has identified the shell as a Japanese species, either *pecten nobilis Reeve* or *pectcn crassicostatus Sowerby,* most probably the former. The shell would, therefore, appear to have found its way to Taxila from the shores of the Pacific Ocean.
15. Goldsmith's touch-stone of slate with gold marks. A very fine specimen. Length $10\frac{3}{8}$″. Sk. 4148. Sq. 17·43′. Depth 2′.
16. Fountain head (?) of Gandhara schist stone, in form of grotesque human figure, possibly Kuvera, seated cross legged on rectangular base. Wears curly beard and moustache and bracelet on

r. wrist. There are holes in mouth, ears and top of head for discharge of water. Ht. $5\frac{7}{8}''$. Sk. 3398. Sq. 120·49′. Depth 5′.

17. Bone hair comb, decorated with small incised circles. Length $2\frac{5}{16}''$. Sk. 4236. Sq. 13·47′. Depth 4′.
18. Ivory hair comb, decorated with small incised circles. Length $1\frac{3}{4}''$. Sk. 460. Sq. 132·65′. Depth 4′ 6″.
19. Double edged iron sword with two rivets in handle for attachment of side pieces. Length 21″. Sk. 4430. Sq. 190·69′. Depth 3′.
20. 2 pairs of iron wheels of a small cart with axles attached. The wheels are fitted with 16 spokes each. Diam. of wheel $7\frac{3}{8}''$ to $7\frac{3}{4}''$. Length of axle 2′ 5″. Sk. 784. Sq. 136·57′. Depth 2′.
21. 2 iron drain pipes, probably intended for roof drainage. They are made of welded rings and are of diminishing diameter. Length 12″ and $13\frac{1}{4}''$. Sk. 3631. Sq. 157·61′. Depth 5′.

To the south of the houses described above, some further progress was made with the excavation of the south-east wing of the royal palace, but, as the excavation developed, it was found that this part of the palace was in a much more mutilated state than the western half, and that not a little of it had been completely obliterated. The only section of the palace that now remains unexcavated is the north-eastern corner, and the clearance of this will not take more than a few weeks. Compared with the smaller city residences, the royal palace has yielded singularly few minor antiquities; and, were such antiquities our only objective, it would hardly be worth while to go on with its excavation. Unique, however, as are the collection of domestic utensils, personal ornaments, coins and the like which Sirkap has produced, the ruins of its houses and palaces are in themselves hardly less instructive. For Taxila, be it remembered, is the only Indian city of the historic period that has been excavated on a comprehensive scale: the only spot, in fact, where the material culture of the people and the conditions in which they lived can be practically and effectively studied. To leave this palace, therefore, or any of the other buildings, but half excavated and their plans undetermined, would be singularly short-sighted and would rob the labour already expended upon them of much of its fruitfulness.

The number of coins recovered in the course of this season's excavations was 942. Among the rarer or unique specimens were several local Taxilan types and issues of the following kings:—Menander, Strato I, Antialkidas, Archebios, Apollodotos, Vonones (with Spalahora), Spalahora (with Spalagadama), Azes (I & II), Azilises, Gondophares, and Kadphises I.

Besides the operations described above, Mr. Siddiqi also found time to carry out some much needed conservation measures in the western half of the palace, to level and drain the southern end of the high street and adjacent structures, to clear away the débris from thirteen of the cells in the Kunala monastery, as well as to remove more than 300,000 cubic feet of spoilt earth that had been deposited near the North Gate of the city.

SOME MONUMENTS IN THE PUNJAB AND NORTH-WEST FRONTIER PROVINCE.

By Mr. H. Hargreaves.

(1) The Fort of Attock.

The Government of the Punjab, having decided to declare the Attock Fort a Protected Monument and to maintain it from Provincial Funds, requested to be informed what measures were necessary for its appropriate conservation. In compliance with that request a survey of the Fort has been made and a note, illustrated by eleven photographs, has been drawn up.

The foundations of the Fort, which stands on the left bank of the River Indus, were laid in 1581 A.D. and an inscription dated 991 A.H. (1583 A.D.) now on the top of one of the gateways, probably gives the date of its completion. Akbar's structures are built of the local shaly rock set in thick lime mortar, but for arches, vaulting, domes and a string course on the exterior walls *lakhauri* brick is used, and for the original gateways fine sandstone resembling that found at Tarki in the Punjab. The inscribed slab is of white marble.

Unlike the palace fortresses of Agra, Delhi and Lahore, the fort at Attock appears to have been a purely military post, to hold the river crossing and guard the bridge of boats. No effort was made to level or terrace the interior of the Fort, which is most uneven and encumbered by masses of living rock. At the north-eastern end of the recently levelled Parade Ground are a few traces of arched openings, and the modern sunk road which runs from the Delhi Gate to the Clyde Battery cuts through ancient walls and ruined vaulted passages, but these do not appear to have been part of large or important structures. Save for these poor remains, the interior of the fort is entirely destitute of ancient structures, and interest is therefore centred on the walls and gateways.

The walls, as a whole, are well preserved and structurally sound. Additions to them are numerous and in places their height has been greatly increased, while on the north, modern barracks, built immediately behind, crown the wall. The openings between the *kanguras* have sometimes been closed and some of the loopholes filled in. Most of the bastions have been given modern brick battlements.

One of the most interesting features of the fort is the narrow gallery contrived high up in the walls. The greater part has a vaulted roof, but in one stretch thick flat roofing slabs replace the brick vaulting. This gallery is not continuous. Wherever the battlements are high, numerous flights of small steps on the inner face of the wall lead up to these chambers or to the parapet. Some of these flights of steps are of considerable height.

The battlements, loopholes and machicoulis bear evidence of changes designed to meet new needs arising from changing armaments, but their original forms can still be traced and add to the interest of the monument.

None of the original entrances to the Fort are now in use but three exist or are at least traceable. A gateway of Sikh date is now the principal entrance to the Fort. Two modern gateways have been opened in the northern and western walls, and another in the long modern wall which divides the fort into an upper and lower area.

The present main entrance, the Mori Gate, situated at the north-east of the fort is not an original gateway but probably of Sikh date, while the hornwork and ramp are British.

At the south-west corner of the fort is an original entrance now designated the Kabuli Gate. The outer gateway is built up, but the inner one, of pleasing form and largely of sandstone, is still open. A spacious courtyard exists between the inner and outer gates.

In the centre of the north wall is a rectangular projection called the Magazine. Originally, this must have been one of the principal entrances into the Fort. The modern magazine occupies the courtyard between the inner and outer gateways. The outer gateway is no longer traceable, but would appear to have been in the eastern face of the northern projection, which is faced with modern masonry. The top of the inner gateway is still visible and surmounted by the inscription of the year 991 A. H. referred to above. This inscription,[1] in raised letters, is fixed in modern masonry and its original position is therefore doubtful. but it may have come from the outer gate. The inner gateway. now almost entirely concealed by and enclosed in modern structures, resembles somewhat the Kabuli Gate, but is of more elaborate type and had on either side a small balcony of pleasing design. The sandstone facing of this gate is greatly weathered, seemingly by sand erosion, as the gate faces the river front. On account of the darkness and the stench of the dead bats it was impossible to trace precisely the original structures hidden in the modern magazine and later additions. But after careful examination and measurement and when these modern accretions have been ascertained, they should, if the magazine be no longer required, be cleared away and the inner gateway restored and the courtyard between the inner and outer gates levelled. This, though desirable, is likely to be an expensive operation and would require careful supervision.

At the extreme west of the Fort, and where it is nearest to the river, is an advanced work giving access under cover to the River Indus. A simple arched gate, now closed, is still visible behind the outwork and must have been the original Water Gate. From this gate steps led down to the water, which in time of flood must have risen to a considerable height behind the advanced work. From inside the Fort there is now no sign of the back of the Water Gate, as modern additions entirely hide it and render its re-opening almost impossible.

The north wall, west of the Magazine, was broken down about 1880 and an entrance known as the Lahore Gate, provided, while a second modern gate has been opened in the western wall near the old Water Gate, to give easy access to the village of Mallaitola, after which it is named.

[1] *J. A. S. B. Vol. XL, Part I, 1871, p. 258.* Blochmann.

A modern wall, running southward from the Lahori Gate and dividing the Fort into an upper and lower area, is pierced by a small gateway known as the Delhi Gate.

During the long period of British occupation the walls and gateways have experienced many changes, and modern repairs and additions are much in evidence. From the point of archæological conservation these have not invariably been appropriate, but they have at least ensured the maintenance of the walls in a sound structural condition.

Farrukhnagar.

At the request of the Deputy Commissioner, Gurgaon, certain unlisted monuments in that district were visited in order to ascertain whether they were worthy of protection under the Ancient Monuments Preservation Act. Two of these monuments were situated at Farrukhnagar and the third, a Mughal bridge over the Buddhianwala Nala, lies about 13½ miles from Delhi on the old Badshahi road between Delhi and Agra.

Farrukhnagar, a small decaying town situated in the midst of a sandy sterile tract some 13 miles west by south of Gurgaon, was founded by a Biloch Governor named Dalel Khan, afterwards known as Faujdar Khan, in the reign of the Emperor Farrukhsiyar (1713-1719). A marble tablet in the principal gate is inscribed in Persian characters, '*Qila-i-Faujdār Khān, 1100.*' The town was entirely surrounded by a wall made principally of large *kankar* blocks, and was provided with numerous bastions and several gates, but much of the wall has fallen and the remainder is now greatly decayed.

The monument known as the Shish Mahall and the residence of Faujdar Khan, is a block of buildings round a square court-yard, and the only well preserved remains of the original complex of structures, the rest having either fallen into ruins or been sold. A pleasing little enclosure with gateways, which is known as the Mahall Sarai and is contiguous with the southern wall of the Shish Mahall, is now in possession of a *bania,* who has erected many walls and greatly altered its appearance.

Two gateways give access to the Shish Maḥall enclosure, the principal one being on the western end of the northern side, the smaller towards the southern end of the western side. Narrow *dalans* without verandahs but provided with a deep *chhajja,* form the eastern and western sides, but the buildings on the north and south are much greater in depth.

The Shish Maḥall proper, and the most important structure, occupies the centre of the southern side and is a long building of plastered red sandstone, with a deep *chhajja* supported by brackets and flat slabs. In front is a raised platform edged by a low stone *jali,* save where steps descend at either end of the northern face.

Three large arches of late Mughal design give access to the main high chamber, but on either side are small rooms each with galleries with arched openings facing the main hall. The three main arched openings are repeated in the centre of the hall and appear on the back as panels ornamented with glass

inlay, resembling somewhat the Sikh work in the Lahore Fort. The main design of these panels to which the monument owes its name is a cross section, in relief, of a pavilion with Bengali roof, so that the *Shīsha* ornament does not cover merely large flat or simple curved surfaces as at Lahore. Much of the glass inlay is now lost, and at some comparatively recent period has been ineffectively and inappropriately repaired. To this renovation are due the rectangular framed mirrors, the bright red painted rosettes, the dado and the painting above the capitals of the pilasters and round the edge of the arches.

The Shish Maḥall has a panelled wooden ceiling like those found in Sikh buildings, while the small side chambers have modern beam and batten roofs.

On either side of the Shish Mahall and at a lower level is a structure with five arches, which are repeated in the centre of the room. The ancient roofs have been replaced by modern ones of R. S. or wooden beams and battens. The building to the east is well kept and in a clean and sound condition, being used as a police office. From it access is gained to two small rooms now used as a *hawalat,* while adjacent to it is a small *hammam.*

The similar structure to the west of the Shish Maḥall was, until about 1910 used as a school. Since then it appears to have been entirely neglected and is in a lamentable condition. The walls are blackened by smoke, plaster has fallen from the masonry, some of the *chhajja* slabs are broken and, unless early action is taken, the building will fall into ruin.

On the platform immediately in front of the centre arch of the Shish Mahall is a small tank in which traces of a fountain exist. The water from this flowed under the platform and at its northern face fell perpendicularly over a slab with niches for lights (*ābshār*), then under a projecting *Shāhnashīn* supported on red sandstone arches and into a *pakka* sunk channel which originally had thirteen fountains. Four narrow raised parallel causeways ran east and west at right angles to the water channel and appear to have had a narrow *pakka* sunken edging, level with the parterres and ornamented with little formal water tanks.

There are small buildings on the roof of the Shish Mahall and also others behind these on the same level but forming the second storey of buildings now no longer part of the Shish Mahall.

On the southern end of the eastern *dalan* is a small building used as a kitchen by the police constables, while a similar structure serving as a godown for the Notified Area Committee occupies the eastern end of the roof of the northern *dalans.*

But the principal building on the roof is that which stands above the main gateway. This is a large rectangular pavilion with a *chhajja* and the remains of a small ornamented tank and fountain on the east. To this face of the building a modern verandah with heavy columns and roof of R. S. beams has been added, and the building is now used as the office of the Farrukhnagar Notified Area Committee. Access to this roof and building is by a modern staircase projecting into the courtyard.

The monument is Government property, and the Police occupy half of the buildings, *viz.*, part of the Shish Mahall, the building to the east of it, and the whole of *dalans* on the east and north. The Post Office absorbs the few rooms on the west, while the Post Master lives on the second storey in the south-west corner, the Notified Area Committee having on the second storey the building above the gateway referred to above and the one at the north-east corner. These buildings are maintained by the various occupants but no rent is apparently paid to the Government.

The double line of chambers of the northern *dalans*, which face the street, are in possession of shop-keepers, who are said to have purchased them many years ago and made additions on the north.

The monument is only some two hundred years old and was built when Mughal art, like the empire itself, was decaying, but, as a specimen of the domestic architecture of the period and the residence of a powerful and wealthy official, it is worthy of preservation; for it is doubtful if many similar examples now exist in the Punjab.

A conservation note has been drawn up and the monument has been recommended for protection under the Act, but as it is occupied by two provincial departments as well as by the Post Office, it has been recommended that it should be maintained from Provincial Funds.

But the most interesting monument at Farrukhnagar is an octagonal well known as Baoli Ghaus Ali Shah, apparently contemporary with the walls (1689 A.D.), and close to the north-east bastion. Its preservation is most desirable and its early protection under Act VII has been recommended, as it is not only of architectural interest but of a type rare in the Punjab.

The Mughal Bridge over the Buddhianwala Nala referred to above lies half a mile east of the modern bridge, 13½ miles from Delhi on the Delhi Muttra Road, and was inspected on February 13th, 1927. It is a stone bridge of three arches which are structurally sound but require considerable pointing. The piers of the central arch were strengthened by buttresses whose position was marked above by four small *minars* with domed tops. Of these *minars* only the two on the Delhi side of the bridge still remain. The paved approaches to the bridge exist in excellent condition.

The water-way under the arches was originally paved, but is well preserved in the centre arch only, and even here the stream has dangerously cut away the down stream bed exposing its foundations. About one-third of the parapet has disappeared as well as two of the *minars*. Trees of some considerable size and other vegetation have taken root in the masonry and are a menace to the structure.

The bridge is of sufficient historical and archæological interest to warrant protection under the Ancient Monuments Preservation Act, and, as the Central Government already maintains the other existing remains of the old Badshahi highway, *viz.*, bridges, *serais*, *baolis* and *kos minars*, it has been proposed that the maintenance of this equally valuable monument should also be assumed by

the Government of India. A note detailing the necessary conservation has been drawn up and the monument has been photographed.

Baoli at Mehm.

The finest and best preserved baoli in the Punjab, is the one at Mehm in the Rohtak District. As special repairs are to be undertaken there, the monument was inspected in February 1927 to explain to the Public Works Department Officer concerned the details of the proposed conservation. The *baoli* is an elaborate structure of brick and block *kankar*, about a hundred steps in three long flights separated by landings, leading to the water (Plate XXIX, *c.*) it bears an inscribed marble tablet recording its erection by one Saidu Kala, a mace-bearer to Shah Jahan.

Khyber Pass.

The Political Agent, Khyber, having sent, on April 27th, 1926, certain letters from the Officer Commanding, 1st Indian Infantry Brigade, Landi Kotal, reporting that sculptures from a Buddhist shrine had been discovered near Sultan Khel village in the Khyber Agency, the site was visited on May 2nd, 1926.

It was found that the find-spot was a low elliptical mound about a quarter of a mile north of the Shpola Stupa.[1] The mound, which lies in the midst of cultivation, is some 70 feet long and 40 feet across and is highest at its northern end where it rises some six feet above the neighbouring fields. This area has been known to yield antiquities for the last forty years and the villagers state that various heads, etc., were recovered there more than thirty years ago for Colonel Warburton, Political Agent, Khyber. Since Colonel Warburton's time the place had remained unexploited. Recently, however, certain British officers having evinced a lively interest in these antiquities, one Rauf Shah, a Sayyid of Sultan Khel village began to dig there and made certain discoveries. Later Captain Bowen of Landikotal started regular excavations and engaged men who continued the operations for four or five days. A portion of the finds was taken to Landi Kotal and several complete seated Buddha figures from a frieze as well as other Buddha and Bodhisattva heads were in possession of Captain Bowen.

Practically everything had been removed from the trenches which marked the excavations before inspection. The exposed walls were of the larger type of diaper masonry of about the Second Century A. D., but some of the stucco figures appeared to be of later date. The stucco seated Buddha figures had been removed from the base of a stupa and there were also some large heads which had most probably adorned chapels. Brief but not very accurate accounts of these excavations, by unknown writers, appeared in various Indian newspapers.

As a result of these excavations Rauf Shah has a number of stucco heads, some larger than life size, which he offers for sale to visitors to the Khyber,

[1] *A. S. I.*, 1915-16, p. 115.

Excavations on these haphazard lines are very undesirable. *No detailed* record is kept of the operations, no list of finds made, and antiquities are broken up for convenience of transport. No plan is prepared and the work becomes a mere scramble for portable antiquities and, in consequence, possibly valuable archæological evidence is destroyed for ever.

The Ancient Monuments Preservation Act does not apply to the Khyber Agency, but the Political Agent was asked to do everything possible to discourage such excavations there. He was of opinion, however, that steps to that end were undesirable, as they might give rise to the belief that the antiquities were of considerable value and local cupidity might be stimulated thereby.

In spite of the prohibitions of Notification No. 1385 of July, 1924, Captain Bowen took out of India six of the heads he recovered. The attention of the Local Government was drawn to this and to the very strong Indian feeling against the removal of antiquities from India to foreign countries, and orders were issued to the Head-quarters, Peshawar District, to make over the remaining images to the Superintendent, Archæological Survey, Frontier Circle, but entirely without effect.

Sporadic diggings still occur in the neighbourhood of the Shpola Stupa, and a few of the finds have found their way to the Peshawar Museum.

SHAHDAUR.

In October, 1924, Mr. Copeland, I.C.S., Deputy Commissioner of Hazara reported the existence of an inscribed rock in the Agror Valley, Hazara District. The rock contained two Kharoshṭhī inscriptions and estampages of both were procured in the following month and sent to the Government Epigraphist, who reported that it was impossible to state how the epigraphs originally began or ended, and a connected reading was hardly practicable. He observed, however, that one inscription (Pl. XXIX, *a* & *b*). contained the date 60, and that they were valuable records and worthy of preservation. The rock was, therefore, declared a protected monument in October. 1925.

As Dr. Konow, who is publishing the post-Asokan Kharoshṭhī inscriptions, experienced great difficulty in deciphering the Shahdaur inscriptions and requested better estampages and photographs, a personal visit was paid to the Agror Valley in September, 1926. Both inscriptions are on a large boulder about a mile from the village of Shahdaur, which is itself some four miles from Oghi, and two from the large village of Shamdarra. Cultivation has recently been extended in this little glen and the rock lies in a small terraced field, just on the edge of the forest line. The greatest length of the exposed surface of the rock is 16′ 9″, its greatest width 13′. The rock tapers somewhat towards its southern end.

In the fields around, potsherds, broken bricks and coins are said to be found. Of the last named no specimens were forthcoming. The potsherds recovered were coarse in fabric and in no way distinctive. Specimens of two large, well burnt bricks of early date were brought for inspection by a man from the adjacent hamlet of Kanga Bānda. These measured $9'' \times 8\frac{1}{2}'' \times 2\frac{3}{4}''$ and $9\frac{1}{2}'' \times$

9″×3″. Traces of walls exist on the hill side above the rock, but do not resemble in technique the Indo-Scythian walls of Taxila. Nothing was seen of the 'Buddhist walls' mentioned in the first report of these inscriptions.

The glen lies just off the most direct route from Darband to Garhi Habibullah and Kashmir and, as no vestiges of any former important structures were traced in the vicinity, the position of these epigraphs cannot, at present, be accounted for.

No dressing of the rock appears to have preceded the engraving of the inscriptions. Inscription A consists of five lines of script on the upper surface of the boulder, while Inscription B, in two lines, is on the seemingly natural and perpendicular face of the northern end of the rock (Pl. XXIX *a* & *b*). Several photographs of the rock and estampages were sent to Dr. Konow. Owing, however, to the original roughness of the rock and two thousand years of weathering, the reading of the inscriptions is still uncertain, but from a preliminary report received from Dr. Konow, Inscription B appears to be dated in the year 60 and in the reign of a ruler named Namijada, whose name is seemingly Iranian. The second inscription on the top of the rock appears to be a little later. Any date which may have existed is now uncertain, but the word *Aya..sa*,[1] with sufficient space in front for the word *mahārājasa*, may be read in the first line. This inscription also mentions a certain Śivarakshita.[2] Dr. Konow would assign these inscriptions to the period of Śaka rule and connect them with the epigraphs from Maira, Fatehjung and the unedited Mansehra inscription of the year 68. The importance of these inscriptions as showing that the Śaka empire comprised the Hazara District, is therefore plain.

Proposals for the adequate protection of these valuable records have been drawn up and it is proposed to enclose the rock within a low terrace wall like that around the rock bearing the 12th Edict of Asoka at Shahbazgarhi.

NALANDA

By

Mr. J. A. Page.

On the excavation of the Buddhist remains at Nalanda a sum of Rs. 15,999[3] was spent in the year under review, against a total grant of Rs. 16,000.

This old monastic site, which dates from the 6th century A.D. and perhaps before, has been described in previous reports; but I may repeat here that its characteristic features are a long range of monasteries on the east side, a similar range of stupas on the west, and a short range of monasteries to bound the area on the south. Down the centre of the site runs an approach avenue, entered, it would seem, from the north. From the excavations already made it is

[1] *Cf.* Marshall, *J. R. A. S.*, 1914, pp. 973-86.

[2] The name Sivarakshita (Sivarachhita) occurs not only on the Bimaran casket but also on a seal from Taxila. *Cf.* *A. S. I.* 1914-15, p. 25.

[3] This figure includes a sum of Rs. 1,833 spent on the purchase of track and tipping waggons, and a further sum of Rs. 461 appropriated to the purchase of iron shelving at the suggestion of the Director-General of Archæology.

clear that the range of monasteries on the east side continues beyond the acquired area and probably into the village of Burgaon to the north.

The other predominant characteristic of the Nalanda site is the sequence of structures that have been erected and re-erected on the same spot over a period of several centuries. This is especially evident with the buildings at the south end of the site, where, at the Monastery designated No. I, no less than nine separate levels of occupation have been revealed.

The principal work done during the year was at STUPA No. 3, a great mound of laid bricks at the southern end of the western stupa range. The stucco-covered tower of an earlier stupa was disclosed in the previous year at the south-east corner of this mound, as has been described in the last report. The corresponding north-east tower had been excavated by the late Dr. Spooner several years before; and a tiled shed had been erected over it to protect it from the weather and to prevent an accumulation of rain water in the box-like space that had been left about it, formed by the encompassing walls of a later stupa. In the year under review this protecting shed was dismantled and removed, together with the later encasing walls; and, this accomplished, the whole of the eastern frontage of the earlier stupa between these two corner towers was exposed—all of it, that is, that had survived the original collapse (Pl. VI, *a* & *b*). This is very simply stated; but the labour it entailed will be appreciated, when it is said that it involved the tracing of the stupa-face yard by yard through a solid mass of later brickwork 40 feet high, and the dismantling and removal of over a lakh and a quarter cubic feet of laid brickwork in front of it.

The eastern front so exposed represents the lowest storey of this particular stupa; and this storey formed a berm or terrace about the upper portion of the stupa and served as a *pradakshina* way. Only at the ends of the frontage, however, has any part of the actual terrace survived, the destruction occurring progressively lower as the centre of the frontage is approached (Pl. VII, *a*). Of the remainder of this stupa nothing whatever appears to have survived; and its broken base was built on as it stood when the next stupa was erected on this site.

Excavation was continued around the north-east tower, along the north front of the stupa base, and then along the eastern face of what proved to be a great flight of steps leading from the ground level outside up to the stupa berm. This flight of steps was flanked by stepped walls elaborately ornamented, like the corner towers, with images of Buddhas and Bodhisattvas modelled in stucco and ranged in tiers along the outer sides (Pl. VII, *b* and VIII, *d*). The stair was recovered quite intact, even to the plastered finish of the steps, and even the exterior plaster decoration is, on the whole, well preserved.

The remains of this stucco-covered stupa, with its corner towers, were thought up to this year to be the earliest of any size that had been erected on this site, which then seemed to contain the remains of three large stupas, one erected on the ruins of the other. The exposure of the east front of this early stupa in the year under report revealed what appeared at first to be little half-stupas pro-

jecting from the façade. Excavation by the side of the projecting half-stupas into the façade of the main stupa, in an endeavour to elucidate this unusual feature, revealed, however, that the apparently 'attached' half-stupas were really the exposed halves of complete little votive stupas, the other halves of which were buried in the façade. Obviously, then, they were there before this great stupa façade was built.

With this clue to hand, a further cutting was made into the centre of the stupa façade and, some 10 feet inside, the low remains of a plain wall-face came to light (Pl. VII, *a*). This wall-face was traced both north and south by means of tunnels through the great mass of over-laid brick, and the exterior corners were revealed, together with a central projecting bay. The distance between these corners was 47 feet and the central projection measured 15 feet across. Of this earlier structure a height of only some 12 feet, at the most, remained.

We had already cut back the remains of the later structures to the line of the early stucco-covered façade, and this discovery entailed the further cutting back of these later structures to the alignment of the still earlier stupa. Consistently with the aim of exhibiting as much as possible of each successive structure exposed, the stucco-covered stupa-base is being preserved as it was found and the earlier stupa inside it is being exposed to view by leaving a permanent passage along it, excavated in the thickness of the brick mass of the encompassing stupa, so that the façades of both may remain exposed to view on the east side of the stupa-mound.

This work was taken up on the south side of the deep trench that had been sunk last year through the centre of the mound; and in the course of clearing the passage between the stucco-covered façade and the earlier stupa inside it we came upon the remains of the little corner tower of this stupa (Pl. VIII, *c*). This was quite unexpected, because we had already exposed the actual corner of the stupa behind it. This little corner tower took the form of a tall stupa ornamented with mouldings and pilasters and inset niches, and it was originally covered with stucco, of which portions still survived. Adjoining it were the fragmentary remains of a similarly ornamented berm that had been built directly against the plain façade we had already found—applied afterwards, as it were, to the main structure. The outer faces of the little decorative inner tower were traced through the brick core of the later tower that had been built over it; and its eastern face, together with a short length of the attached berm, is being left permanently open to view along a narrow passage that has been cut beside it. It is impossible to leave the corresponding southern face exposed without dangerously undermining the cut core of the later tower above, so congested are the remains here. The southern face of the tower, together with the southern face of its stupa, is therefore being closed in again with brick-hearting for the greater part of its height; but the little dome-like top will be left free, to reveal what it is.

Deep in the centre of the stupa-mound we had found last year the remains of what were then thought to be three successive structures, all quite small.

Further excavation here this year revealed that there were really four, and these may here be enumerated as follows: the first, a square structure 5′-8″ a side and 4′-0″ high to its broken top, probably the base of a little stupa; this formed the nucleus of the mound; the second, an outer square structure erected about this nucleus and measuring some 9′-8″ a side; its foundation starting 1 foot higher than that of the first; the third, a small rectangular structure measuring 11′-6″ E-W by 5′-6″ N-S, with a narrow concrete *chabutra* along the bottom, and above the *chabutra* on the north face fragmentary indications of stucco-figures; the foundation of this structure starting 4 feet higher than the second; the fourth, a low hollow chamber about 12′-6″ square with rough overhanging corbelling around the sides, which was found filled with earth, the floor of this starting 1 foot higher than the third structure. Careful search in the thickness of the brick hearting between this inner chamber and the first of the stupa façades outside revealed no trace of any intervening wall face, so that this inner corbelled chamber must be considered to belong to the first stupa façade outside. The inner chamber was probably constructed to accommodate a relic, but no trace of such a thing has come to light.

It has not been practicable to leave these earliest little structures inside the stupa-mound open to view; the brick-work is very much disturbed and the individual bricks composing it split and cracked; and the difficulties of rendering it permanently safe and secure are too great to warrant the attempt. The evidence they afford has been recovered and recorded, and the deep central trench that has exposed them will be filled in again, as the course best calculated to ensure the preservation of the remains.

As mentioned above, the two earlier of the large outer stupas have been exposed on the east side of the stupa mound; on the corresponding west side the remains of what have proved to be two later large stupas are being preserved; and before the two later integuments were removed from the east side, the features they presented on this side were carefully recorded and repeated, where they happened to be missing, on the west side.

In their sequence from the beginning these four large outer structures represent the fourth, fifth, sixth, and seventh structures to be erected here, and it will perhaps tend to lessen confusion if they are now so described; for this sequence of seven successive structures is, indeed, only comparable to a Chinese box puzzle.

The brick mass of the sixth and seventh stupas, then, having been cut back to expose the eastern half of the stair of the stucco'd fifth stupa, a section of the seventh (and latest) stupa was cut away to expose some portion of the sixth. This cutting, like the previous one exposing the fifth stupa, was made on an alignment south to north, and was successful in revealing the broken remains of the stair belonging to the sixth stupa. A number of the steps towards the top of this flight and part of an intervening landing had been exposed some years previously, and in the excavation now made a few of the lowermost steps of the same flight were exposed, quite intact. With the inclination of the stair thus revealed, it was a simple matter to set out and build up the intervening steps

that had been broken away, and this has been done to facilitate access to the shrine on the extreme top of the stupa-mound (Pl. VI, *c* & *d*).

Of the seventh structure to be erected here, all that survives is the lower part of the outer encompassing wall, and a high wall of brickwork built up over the northern stair of the sixth stupa and ornamented with a series of three moulded string-courses. So little of this seventh structure remains that it is not possible to visualise its original appearance; but from the fragments of monolithic columns that were found about it at a contemporary level on the north side, it appears that a colonnade or loggia of some kind was a prominent feature of the design. This seventh structure again, or such of it as remains, is being preserved on the west side of the stupa mound.

The line of the cutting along the stair on the north side has been carried over the stupa-mound on to the south side, and, with the minor exceptions noted below, the whole of the sixth and seventh structures to the east of this alignment has been removed (Plate VI, *b*).

The effect of all these operations has been to give us a full-size model of the stupa-mound cut into sections revealing a definite part of each of the last four structures that go to compose it, the earlier two on the east and the later two on the west. At the same time the features peculiar to the construction of the stupas have been disclosed, such as the frame-work of walls that was built around the earlier structures in the process of erecting a new stupa on their ruins.

Such low portions as remained of the outer facing walls of the sixth and seventh stupas are being preserved along this east front also; they have been separated from the earlier façades behind them by cutting away the great mass of intervening core to leave a wide passage between them. In this mass of core the remains of many early votive stupas were found, belonging to the period of the fifth stupa; and these, again, have been exposed in the passage so cut.

One of these little votive stupas is of unusual interest; attached to it on the east face is a little porch-like shrine containing fragments of a very *kachcha* stucco image; and this little shrine is roofed over with a perfect little barrel-vault in brick, much in the same way as the brick-built 'caves' in the court-yard of Monastery No. 1 (described in earlier reports). This little stupa is contemporary with the stucco'd fifth stupa, and pre-Muhammadan by several hundred years; so here, again, we have an instance of a 'Hindu' vault of arch construction.

A curious feature of the ruined stupa-mound is the inexplicable manner in which, with all the last four structures erected here, the middle portion of the eastern front has suffered the greatest damage, and the ends the least. Here, at the ends, where one would expect the collapse to be most complete, the susceptible corner towers of the fifth stupa with their stucco'd fronts and modelled images have been recovered almost intact, while the central façade connecting them is in ruins right down to the ground, the damage becoming progressively lower as the centre is approached (Pl. VII, *a*); and this curious incidence of ruin is repeated, only less noticeably, with the fourth stupa and again with the

low remains of the sixth and seventh stupas on this front. This is all the more remarkable since the whole structure would in each case have been composed of a solidly laid mass of brickwork. It is, indeed, an odd instance of the probabilities conflicting with the facts.

That bricks were removed from the ruined stupas for use again in the new ones is probable, and indeed an instance of this is apparent in the old walls of the seventh stupa, where the bricks of the lower façade have obviously been cut and rubbed to a new surface ; but it is clear from the bulged and shattered condition of the plinth between the two stucco'd towers of the fifth stupa that the destruction has resulted from comprehensive collapse and not piece-meal demolition ; so the accident of chance seems to be the only explanation.

MONASTERY NO. I.—The excavation of this monastery, which was the first one to be exposed, when the late Dr. Spooner commenced operations at Nalanda in 1915, was practically completed some two years ago when the earliest pavement of the internal court was exposed. In the year under report, the top of the small *chabutra*-like feature that projected, at the earliest level, from the south side of the court was further explored and was found to contain vestiges of walls forming a small square shrine with an image-pedestal in the east side. The little shrine was entered from the north through a porch. The concrete floor of this porch, on being opened up, was found to contain beneath it two earlier floors, also of concrete, one laid directly on the other and all within a depth of 1 foot 4 inches.

Over the earliest floor here and laid flat, possibly to serve as column bases, were two long stone plinths, which had patently been cut to stand erect originally, and seem to have been brought from some other structure. A point of interest that the clearance here disclosed was that the sculptured stone panels portraying human-headed birds revering a lotus (mentioned in the Report for the year 1921-22) were not integral with the original *chabutra,* but had been inserted here when the second floor of the porch above came to be laid.

On stylistic grounds the panels are assignable to the 7th or possibly the 6th century A.D., but the fact that they were not expressly designed for their present position deprives them of their value as evidence for a date of the structure containing them. The one definite chronological datum that we have obtained is the inscribed copper-plate of Devapaladeva, whose reign is assignable to the latter half of the 9th century A.D., and this record was found in the ruins of the 3rd monastery to be erected on the site.[1] Which of the earlier structures below the Devapala stratum was seen by Yuan Chwang on his pilgrimage here in the early 7th century, it is as yet not possible to say ; but we may hope that evidence on this point will be forthcoming as the excavation of the Nalanda area proceeds.

In accordance with the scheme, mentioned in the previous report, to expose the lower group of strata over the south half of this monastery and the upper group over the corresponding north half, the verandah of this latter half will be

[1] Metal figurines inscribed with Devapala's name have also been recovered from this stratum notably an image of Balarama.

maintained at the higher level. With a view to securing any minor antiquities that may be hidden below it, however, this verandah is being excavated. and it will afterwards be filled in again in conformity with the scheme of levels. It was from the corresponding verandah on the southern half of the monastery that most of the metal figurines of the Devapala period that grace the Nalanda collection were recovered, and it is hoped to add further to them. The work is in progress, the north half of the western verandah having so far been cleared; and a number of finds have already been made, and a few of the more interesting are described further on in this report under 'Museums' (Nalanda).

MONASTERY NO. 4.—With the same idea of exposing, over one half of the monastery, the upper levels, and over the other half the lower, the north verandah here was excavated, along with the cells contiguous to it, down to the uppermost[1] of the three lowest levels.

As has been remarked in previous reports, this monastery contains in itself the remains of four structures, one built over the ruins of another. The excavation of this north verandah has afforded access to the corbelled passage about the earlier sanctum on the east side, which is entered through the adjoining cell at this level. In the course of the work a few minor antiquities were recovered, among them a well-wrought image of Tara, which again is described in detail under 'Museums' (Nalanda).

A question that has long exercised me at Nalanda is whether these early monasteries ever had more than one storey. Yuan Chwang, according to Beal, describes those he saw as being four storeys high;[2] but apart from such internal evidence as a wide dog-legged stair in a corner cell of the larger monasteries Nos. 1, 1*a* and 4, and the great thickness of the monastery walls, ranging from 8 to 12 feet, which may or may not be indicative of a second storey,[3] nothing had been found to settle this question in any way conclusively.

In the clearance of the east verandah of Monastery No. 4, howevér, a further item of evidence was forthcoming, small in itself but of the greatest significance, namely, a stone column-base lying on the sloping top of the concrete débris that resulted from the collapse of the verandah roof, and this was found very near the outer edge of the verandah. It was at too high a level to have belonged to the parapet of the verandah below, which was some 3 feet lower than the stone base, and it was, moreover, found on top of the burnt mass of roof concrete, which had collapsed as it stood: it was not found sandwiched between the roof débris and the floor, and could therefore not possibly have belonged to the lower verandah parapet. Here, then, taken in conjunction with the great thickness of the monastery walls and the wide stair-cases, is conclusive evidence that at least a second storey, if no more, existed in this monastery of Devapala's period.

It is a singularly fortunate find; for the stone bases belonging to the upper storey would naturally, as in the case above, lie on the top of the roof débris

[1] The Devapala stratum.
[2] Life of Hiuen Tsiang, p. III. Beal (Trubner, London), 1924.
[3] The stair may merely have led to a flat roof.

and, being thus readily accessible to the builders of the later monastery, would naturally be re-used by them for their own purposes; for though they built up their new monastery directly on the sloping débris of the previous one, without disturbing it in the least even to find a suitable foundation, it is but natural that they would make use of stone features lying ready to hand on the surface; and it must be this that explains why no other evidence of this kind indicative of a second storey has come to light before.

Whether there were more than two storeys, it is impossible to say. That the verandah columns were generally of wood rather than stone seems clear from the comprehensive nature of the collapse; for we have internal evidence of an intense conflagration; and wooden columns in such circumstances would add greatly to the extent of the damage, and account for its wholesale nature. The columns being of wood, too, would also account for the circumstance that nothing of them has survived the fire; though numerous column-bases of stone are still extant and in monasteries of more than one period.

The lighter weight of wooden columns in comparison with stone would facilitate the construction of upper storeys; and though no direct evidence of more than two storeys has been afforded by the remains, there is nevertheless no *primâ facie* reason against there being more, even perhaps the four that Yuan Chwang describes.

MONASTERY No. 6.—This monastery, which adjoins Monastery No. 4 and its annex No. 5 to their immediate north, was one of the principal sites under excavation during the year. The outline of the verandah had been traced by a continuous trench along all four sides in the previous year, and the work was continued of exposing the monastery so revealed. The north, west and south verandahs have so far been cleared, together with the cells along them and about one-third of the central courtyard. As with each of the other larger monasteries so far excavated at Nalanda, a fine well was recovered in a corner of the court. Here it is located in the N.-W. corner, and is of octagonal shape for the upper part of its height and circular below. In the clearance of the well a number of *chattis*, many of them intact, were brought up, as well as pieces of the original wooden framework erected on the top to facilitate the drawing of water. The *chattis*, which must be well over a thousand years old, might from their appearance have been made yesterday; some of them are simply decorated with a mica glaze in bands.

THE MONASTERY RANGE.—In the previous year the eastern frontage of the monastery range had been traced up to the north limit of the area acquired for excavation; this year the corresponding western frontage was similarly traced by means of a long continuous trench right up to the boundary of the site, the alignment breaking forward at regular intervals to encompass the wide projecting entrance halls along this front. The range of monasteries thus revealed along the eastern boundary of the Nalanda area comprises ten buildings, and the northern limit of the area cuts across an eleventh monastery, as the range continues towards the Burgaon village. The village itself contains a high mound in approximately the same alignment as the stupa range on the west side

of the acquired area; and it seems probable that the Nalanda of early times embraced this village. It is pure coincidence that brings a southern boundary, if not the southern boundary, of the old monastic area within the land acquired for excavation; but this southern boundary is clearly marked by the adjoining monasteries (1*a* and 1*b*) that connect the end of the long eastern monastery range with that of the corresponding western range of stupas.

Exploratory cross-trenches cut into the monasteries so outlined have revealed indications that these, too, all contain more than one level of occupation and that certain of them have been destroyed by fire; but the monasteries must be fully excavated and the evidence they contain completely disclosed before anything definite can be said about them or the data they yield for the history of the site.

The tipping waggons and track that had been ordered in the previous financial year through the Stores Department were delivered in May, and their use has greatly facilitated progress with the work. The cost amounted to Rs. 1,833 in all, but the saving in labour they have effected has already gone some way to recouping it.

BULANDI BAGH, NEAR PATNA.

By Mr. J. A. Page.

Bulandi Bagh is the name of a fruit garden that lies some 4 miles east of Patna close to the E. I. Railway line and is known to fall within the limits of the ancient city of Pataliputra. The exploration of this site, which had commenced with Col. Waddell's excavations in 1903 and had been continued by the late Dr. Spooner in 1913. was taken up again in the year under review, a grant of Rs. 11,000[1] being made for this purpose by the Archæological Department.

Mr. Monoranjan Ghosh, Curator of the Patna Museum, who had excavated here in 1922-23, was placed in immediate charge of the work under the general supervision of the Archæological Superintendent in the Central Circle, and he was successful in bringing to light many interesting antiquities, some dating from pre-Mauryan times.

The excavation of this site is rendered very difficult by the high level of the subsoil water that obtains practically throughout the year, and it is only in the summer months that it subsides sufficiently to permit of the earlier strata being exposed. For this reason the work could not be started until the beginning of December, and even then arrangements had to be made for bailing out the deep ponds of water that lay in the pits and trenches left from previous excavations on the site (Plate XXX, *a*). This was accomplished by the local Indian method of lifting with *karings* and *kuris*, the water being raised on to a series of terraces and finally run off by a drain. While the water was being bailed away, the mounds of spoil earth that had been left from the earlier excavations were removed preliminary to excavating the ground beneath them.

[1] This sum was spent in full.

Dr. Spooner's excavations had revealed the existence of a long wooden palisade of Mauryan times running W.-E. from the south end of the Bulandi Bagh site for a distance of some 450 feet; the west end of the palisade being marked by a definite slope or ramp up to the top of it. With the view of throwing more light on its nature and purpose, it was decided to open this up again, together with the areas immediately flanking it to north and south.

The spoil earth along this palisade having been removed, the ground to the north of it was excavated at the west end over an area of some 80 feet by 70 feet to a depth of some 16 feet. Very little of a structural nature came to light here, however, the only remains of the kind being a semi-circular platform of lime-concrete some 8 feet in diameter with a raised edge 2 inches high on one side, which was found about 4 feet below the surface, and the foundation of a small room with a brick floor, some 30 feet to the south of the platform and at about the same level. The platform may conceivably have served as a bathing place. But though structural remains were few, many important antiquities were found within this area.

Immediately opposite, to the south of the palisade, the ground was cleared to a depth of about 18 feet over a space of about 100 feet by 70 feet, and the brick foundations of some small rooms belonging to 4 different periods were revealed (Plate XXX, *b*). In the lowest stratum, and seemingly of the same period as the palisade, there are the remains of a brick wall running N.-S., 5′-9″ long and 2′-8″ high; this wall is very much damaged, the western face having gone altogether, so that its width cannot be ascertained. The bricks used in the wall measure 11″×5½″×2″. Above this structure there was a very thick deposit of black earth mixed with potsherds, and this proved to be very rich in antiquities. Over this stratum again were the foundations of two more brick walls, one running N.-S. and the other E.-W., but very irregularly. Where bricks exist complete here, they measure 1′-8″×10″×3″.

Above this level occur the foundations of other walls, of which sufficient still remains to reveal the planning of a building with 3 rooms, though all the walls of the rooms are not intact. In the S.-W. corner of this building there is a brick-built structure suggestive of a cistern, with a paved-brick bottom and sloping sides; it measures 7′-10″ long by 6 feet wide at the top and is 7′-10″ deep. Other fragmentary walls occur in this stratum; and above it, again, are the foundations of more fragmentary walls.

Between these brick buildings and the Mauryan palisade were found 4 piles of deep earthen rings or cylinders placed one over the other, the piles ranging in height from 6 to 10 feet. The purpose of these rings is not apparent, but they may possibly have served as soak-pits.

Round about these brick remains and at various depths were found a number of antiquities, embracing coins, potteries, and terracotta figurines.

In addition to excavating these flanking areas, considerable progress was made in opening up the palisade itself again (Plate XXX, *c*) over a distance of 250 feet east from its west end, the width of the excavation being 30 feet and the depth 10 feet. The main object of the excavation was to elucidate the real

nature of this palisade. It seems to have been a wide wooden wall, hollow inside to serve possibly as a passage. Excavation at its west end has revealed that this wooden wall was originally covered with earth up to a certain height and that probably an opening existed where the sloped or ramped end occurs here.

The palisade is constructed of heavy sleepers set at intervals about equal to their width, the sleepers being laid horizontally across the wall to form the top and bottom and vertically to form the two sides. Except for the fragmentary wall mentioned above, no structure contemporary with the palisade has so far been revealed.

The foregoing account relates to the operations conducted during the financial year 1926-27, which is the period embraced by this Report. The peculiarities of this waterlogged site, however, necessitated the excavations being continued uninterruptedly through to the rainy season of the year 1927-28; and as the work thus forms one continuous operation, the following account, bringing this review up to the termination of the work in July 1927,[1] is added :—

The excavation already done had revealed the sloping western end of the palisade, the floor beams of which occurred 22 feet below the present surface level, and further clearance about this end was now undertaken. It has been found that the upright timbers here forming the sides of the palisade continued some 5 feet deeper than the floor beams, which were tenoned into them at the ends; and these upright timbers were themselves founded on wooden planks laid on a bed of rammed *kankar*. Definite indications were now forthcoming that these uprights were protected by thick wooden planks laid horizontally along the outside and fixed to them with wooden pegs.

The width of the palisade across the wooden uprights is about 14′-6″, and these uprights were spanned originally at the top by beams, one of which is still in position at the foot of the sloping western end. The northern row of these upright timbers continues for some 17 feet from the west end, and comprises 9 posts, the tallest of which, at the top of the slope, stands 10 feet above the floor level. The corresponding southern row, containing 24 posts, has survived for some 7 feet further along, and here, again, the tallest post is 10 feet high; the shortest posts of the two rows, at the bottom of the slope, being only 2 feet high. The end timber of the floor and the end beam of the slope are secured in position by stout pegs to prevent movement outwards.

Immediately to the south of this sloping end of the palisade, and about 6′ clear of it, were found 3 short timbers, joined together, side by side, by two wooden cross pieces to form a block measuring 3′-8″ by 2′-5″ by 7″ deep. The purpose of this is not clear, but it may have belonged to the roof of the palisade, perhaps a trap-door of sorts.

It seems that this sloping end of the palisade served as a ramp to afford access to the top of it.

[1] A further grant of Rs. 6,810 was made for this work.

Beyond the upright timbers at this end, very little indeed of the walls of the palisade has survived, though the beams of the floor seem to extend almost indefinitely and occur more or less regularly for as far east as the excavation has been carried (Plate XXX, *d*). At distant intervals along the floor of the palisade were found long planks lying across the floor beams, some of them occurring below them. None, however, is affixed in position, and it is not clear whether they belonged to the floor or to the roof of the palisade, though the probabilities point towards the former. About 128 feet to the east from the sloping west end, an upright belonging to the wall stands in position 6 feet above the floor. The bottom of this upright goes 4′-6″ below the floor beam, and on its outer side are affixed 5 small planks measuring about 2′-9″ long, 1 foot wide, and 3″ thick.

Other isolated uprights occur spasmodically along the floor of the palisade, scarcely numbering a dozen all told. Towards the east end of the palisade, however, there are rows of low posts some 2 feet wide, which stand 1′-6″ above the floor beams. The purpose of these low posts is not clear, but it may conceivably have been to retain in position an earthen floor over the beams of the palisade.

An interesting discovery was made at the east end of the palisade. Here were found a couple of heavy beams, one 6′-9″ long and the other 7′-8″, together with two small uprights that supported the second one; and near the group of wooden members was found a tall octagonal post of which some 13 feet have been exposed. Each face of this post is 6″ to 7″ wide and the width across the octagon is 16″. Two more beams, one with a long mortice-hole cut in it, occurred close to this post; and it seems that the whole group belonged originally to a *torana* or gateway that once stood here.

Another discovery of much interest was a large wooden drain contemporary with the palisade, which it crosses at right angles at a place just over 200 feet east from the sloping west end (Plate XXXI, *j*). The drain measures some 40 feet in length, and it is set across the palisade so as to project equidistantly on either side of it.

The sides of the drain are formed by two lines of wooden posts topped with long tenons and spaced at distances varying from 1′-8″ to 2′-4″ apart. They are fixed at the bottom to horizontal beams running longitudinally N.-S. at a depth of 32 feet below the present ground surface and the greatest height of the posts is 12′-6″. These lines of posts are framed together about 8′-10″ from the top with heavy beams, and on these beams are laid thick planks to form the bottom of the drain, similar planks being laid across the uprights to form the sides. The height of the drain thus formed is 6′-3″, and its width 3′-6″. To keep the side and bottom planks in position there are stout wooden battens, each fixed to the posts with 2 heavy iron nails about 2′ long; and all the joints in the planks are made water-tight with strips of iron 3″ wide fixed with small iron nails to the planks. The bottom of the drain appears to be level throughout, with no fall in either direction; but it is conceivable that this may be due to some disturbance of the structure resulting in subsidence.

Some of the most interesting of the numerous antiquities found during the excavation are described by Mr. Ghosh as below :—

(1) A little metal mirror (height $3\frac{3}{4}''$) probably of copper: it is circular in shape, $2\frac{1}{2}''$ in diameter, and provided with a round handle of the same material. On the front the rim is decorated with a wavy ornament and the back is slightly convex in shape (Plate XXXI, *h*). Probably assignable to the Sunga period. Several mirrors of this kind have been found at Taxila and other sites.

(2) A portion of a soap-stone matrix carved with the conventional figure of a Garuda holding a serpent in its beak before a triangular object. The design is contained in a sunken panel, but only the head of the Garuda has survived. (Plate XXXI, *g*). The matrix is cut with 3 channels for pouring in molten metal for casting purposes. The two holes in the upper portion of the fragment were no doubt meant for fixing the other half of the mould in position. The back is rough and a corner is broken off. The existing portion of the matrix measures $2\frac{3}{8}''$ square, and is $\frac{1}{4}''$ thick. Probably Gupta period.

(3) Terracotta head (height $2\frac{5}{8}''$) of a serpent-goddess with elaborate coils, decorated with honeysuckle patterns. The face, depicted smiling, is finely modelled. (Plate XXXI, *d*.) Probably Maurya period.

(4) A terracotta female figurine in the round, 11″ high, which was found in fragments and has now been joined together (Plate XXXI, *k*). The hair is parted in the middle and then arranged at an angle on her forehead. In her right ear is a large ear-lobe expander, and her left ear is distended, indicating that it once contained a similar ornament. She wears a necklace, wristlets, and a girdle in two strings. Her right hand is raised and probably originally held some object, which was not found; the fingers are well modelled as are also the eyes, nose and mouth. Probably pre-Maurya.

(5) A lead ear ornament, height $1\frac{3}{8}''$, apparently fashioned on a lathe. Probably pre-Mauryan. (Plate XXXI, *a*.)

(6) A pair of bone bangles measuring $1\frac{5}{8}''$ across. Probably pre-Mauryan. (Plate XXXI, *b* and *c*.)

(7) A lead anklet measuring $4\frac{1}{4}''$ across. Probably pre-Mauryan. (Plate XXXI, *e*.)

(8) A narrow-bottomed earthen pot inscribed with the word *Ānade* in Brahmi characters of the 3rd century B.C. The height of the pot is $5\frac{1}{8}''$ and the diameter at the mouth $2\frac{1}{8}''$. (Plate XXXI, *f*.)

(9) A seal impression in glass measuring $\frac{1}{2}''$ in diameter and bearing a legend in Brahmi characters of the 3rd century B.C.; it reads *Devalakhitasa*, meaning "of Devarakshita." (Plate XXXI, *i*.)

Mr. Ghosh writes:—

'The language of the two inscriptions mentioned above is pure ancient Magadhi. One inscription ends in the case termination *sa* and the other in *e* which is the Prakrit form of the nominative singular for bases ending in *a*. These two peculiarities reveal a state of language differing considerably from that revealed in the Rock and Pillar Edicts of the Maurya Emperor Asoka, who reigned in the 3rd century B.C.

The terracottà figurines, of which some 5 or 6 varieties were found, quite different in style from those found by the late Dr. Spooner, exhibit a much earlier development of art than that which characterises those of the Maurya period. The ornaments and dress of these newly recovered figurines are peculiar to themselves and reveal a state of culture quite distinct from that of the Mauryas."[1]

EXCAVATIONS AT PAHARPUR.

By Mr. K. N. Dikshit.

On the great temple at Paharpur, a sum of Rs. 18,696 was spent during the past year, partly on conservation, partly on excavation. Besides this, Rs. 2,000 were contributed by Kumar Sarat Kumar Roy, M.A., of Dighapatiya, and spent, in accordance with his wishes, entirely on excavation labour. Paharpur has, in fact, been the chief centre of the activities of the Eastern Circle, since December, 1925. In the course of the excavations of 1925-26 the north gate of the enclosure and the northern wing of the main mound were excavated, revealing the nature of the monument that lay hidden beneath the jungle-covered heap of brickbats and earth. The main task of the past year has been the preservation of the exposed portions of the monument, but while this was being executed the excavation of the other sides was also continued. By the end of the season, the outline of the monument was almost completely laid bare and an examination of the foundations led to unexpectedly rich results which are detailed below. In addition to the uncovering of hundreds of terracotta plaques that run in rows along the mouldings of the basement and first floor, this year's work revealed traces of many interesting sculptures that were enveloped by the deposits of alluvial soil during the last 700 years or so since the destruction of the temple.

Several important results emerge from the excavations of the past season, namely: the discovery that a prosperous school of sculpture existed in Bengal earlier than any so far known, and the recovery of images of orthodox Brahmanical deities in an undoubtedly Buddhist monument as well as of the earliest known sculptures in East India depicting the exploits of the boy Kṛishṇa, and the earliest images of Kṛishṇa and Rādhā.

As now excavated, the temple is one of the most extensive buildings of antiquity ever unearthed in India, its length from North to South being 361′ and its breadth 318′. The ground plan, as was apparent from the north wing

[1] It may be questioned whether these remarks of Mr. Ghosh are warranted by the evidence. [Ed.]

brought to light in 1925-26, consists of a colossal square cross with projecting angles in each corner, the number of such projections being four each in the north-east and north-west sectors and three each in the remaining two. The upper terraces were apparently reached by a stair-case on the north, opposite which was the main gateway situated in the middle of the northern side of the quadrangular enclosure. The temple rose in three terraces above the basement, with a circumambulatory verandah (Skt. *chaityāṅgana*) around the monument in the first and second terraces. The plan of each terrace was more or less parallel to the ground plan, but the number of recessed angles between the arms of the cross naturally grew smaller at each higher terrace. Above this, the monument has not yet been cleared, but the pillared halls or *maṇḍapas* on the north and south are now exposed and the ante-chamber between the central shrine and the northern *maṇḍapa* has been cleared. The height of the shrine above the level of the *maṇḍapa* on the second terrace is considerable, and if there was any approach to the shrine, it must have been on the east side, where it is intended to commence operations next season.

The work of excavation began on the east side of the main temple mound. Here, the front wall was preserved only up to the height of the plaques, the upper portion having disappeared. In the row of plaques on this side were discovered the first plaques showing figures of the Buddha, one a seated figure in the 'earth-touching' attitude (Skt. *bhūmisparśamudrā*) and the other in the 'preaching' attitude (Skt. *vyākhyānamudrā*). The examination of the lower part of the basement wall led to the discovery of several stone panels in the middle of the wall. It was thus evident that Mr. Banerji's view that the images in this material which he had discovered in the corners of the edifice were intended to strengthen the building, had nothing to support it. On the contrary, my excavations show that stone images occur as often in the middle of the walls as in the corners, and that they are one and all attributable to the same early period as the original construction of the temple, as it stands. They are, therefore, as old as the terracotta plaques and probably much older than the loose antiquities found at different levels on the surface of the mound. The bas-relief in the east wall seen as one approaches the temple across the eastern embankment depicts the god Śiva in a group (Plate XXXIII, *b*). This sculpture, which is believed to be unique, represents Śiva standing with a dwarfish attendant to his right and a similar *chauri*-bearer to his left. The female figure standing in front of the deity is the Earth-goddess offering him a cup of the poison extracted from the milk-ocean, churned by the gods and the demons. Durgā, to the left of the Earth-goddess, holds her hands up as if in fear, and the boy Kārttikeya is clasping her waist. Three other attendants, including the emaciated sage Bhṛiṅgi, appear at the extreme left. The floral designs and attendant on the left jamb of the panel are decidedly Gupta in style, as no doubt is the relief itself.

The excavation of the inner wall of the first floor verandah on the east side revealed some peculiarities of the ancient construction. Here, the walls are

built with large-sized bricks (some of them 16″ in length) in mud mortar, depending for their stability mostly upon their broad foundations, which had as many as 14 offsets up to the present ground level. Between the walls of the first and second terrace verandahs there are certain other walls which go to form a chamber, with a blind lane about 4′ in width around it, the purpose of which has not yet been ascertained. Ancient repairs to the walls are evident in this place, as the bulging face of the fallen wall is to be seen diverging several inches from its restored face. The lower portion of a black basalt image of a Bodhisattva of the Pāla period was discovered in the débris of the second verandah on this side. Among the terracotta plaques decorating the first terrace verandah walls on this side, two figures of archers facing each other in two adjacent plaques and standing in their chariots distinguished by crocodile heads are worthy of mention.

The south-eastern side of the monument yielded many more important finds, and in a better state of preservation than the others. It was on this side, that I found, built in elegant niches, some of the best sculptures employed in the decoration of this temple. Of the total number of 47 stone sculptures brought to light this year at Paharpur, as many as 20 were found on this side.

The excavation was then extended to the south and west, where the basement and the first floor level were cleared before the end of the season. The clearance of a low mound close to the south side of the monument revealed a circular stupa on a square basement from which two votive terracotta tablets inscribed with the Buddhist creed in characters of about the sixth or seventh century A.D. were recovered. The first terrace verandah on the south-west was found in a particularly dangerous condition owing to the action of rain. Large portions of the wall were, therefore, dismantled and carefully rebuilt with the original material. The plaques on this verandah are generally very interesting and exhibit a large variety of subjects, including in particular several representations of Hindu and Buddhist deities such as Śiva, Gaṇesa, Vishṇu, Garuḍa, Padmapāṇi, etc.

Of the stone sculptures, the most interesting are those relating to the life and exploits of the young Kṛishṇa, which have cast such a spell of fascination over the emotional mind of India for centuries past. The Vaishṇavite caves of Badami carved under the orders of the early Chalukyas of Western India contain a number of bas-reliefs depicting scenes from the early life of Kṛishṇa. Two fragmentary *toraṇa* pillars at Mandor[1] near Jodhpur, and a bas-relief[2] depicting Kṛishṇa lifting Govardhan, dateable to the Kushan period contained the only early representations of the exploits of Kṛishṇa, known in Northern India.[3] It could hardly have been imagined, therefore, that some of the best and earliest

[1] Archæological Survey of India: *Annual Report* for 1905-6, pp. 135 ff.

[2] Coomaraswamy: *History of Indian and Indonesian Art*, p. 66.

[3] It may be remarked that among the collections preserved in the Archæological Museum at Mathura there is another fragmentary sculpture of the Kushana period which depicts the carrying of Kṛishna accross the river Yamunā by his father Vasudeva. *Vide Annual Report* for 1925-26, pp 183-4.

examples of the Kṛishṇa cult in stone would be found in the excavation of a Buddhist temple in Bengal. Although the worship of Kṛishṇa, particularly the cult of the divine love of Kṛishṇa and Rādhā, is at the present day strongest in Bengal, it was hitherto believed to have taken root in this region at a date not much earlier than the twelfth century A.D., when Jayadeva flourished at the court of the Sena King of Bengal. The very large number of Vishṇu images of the Pāla period found in North Bengal indicated the presence of a strong Vaishṇava element, but they did not definitely establish the existence of the Kṛishṇa cult in this province. The Paharpur finds set at rest all uncertainty in the matter and take back the beginnings of Kṛishṇa worship in Bengal to the sixth century A.D., or about six centuries earlier than Jayadeva and nine centuries prior to the time of Chaitanya, the great Vaishṇava revivalist of Bengal.

The above images fall into two classes, namely :—

(1) Those depicting the various exploits of Kṛishṇa's boyhood, and (2) those of his associates. To the former class belong: (1) the lifting of the mountain Govardhana, (2) the destruction of Dhenukāsura, the guardian of the palm-grove, (3) Kṛishṇa and Balarāma killing Chāṇūra and Mushṭika in a wrestling combat and (4) Kṛishṇa uprooting two Arjuna trees (Plates XXXII, *a* & *b* and XXXIII, *a*). All these sculptures are fixed on the south-east side, with the exception of the last which was found on the north-east side and was described last year, but without any clue as to its real character. The sculptures belonging to the other category are the following:—

(1) Balarāma, the elder brother and constant companion of Kṛishṇa, (2) Yamunā, goddess of the river, who is so frequently associated with the incidents of the boyhood of Kṛishṇa, (3) Kṛishṇa with Rādhā (Plate XXXII, *c*), (4) sculptures representing amorous scenes probably also connected with Kṛishṇa's sport with the cowherdesses. The first three sculptures occur in the long wall in one of the angles on the south-east, and the last one at the south end of the east wall. Besides these, there may be several others among the doubtful or unidentified sculptures which refer to the incidents of Kṛishṇa's life, as related in the *Bhāgavata* and *Harivaṅśa Purāṇas.*

The sculpture which represents Kṛishṇa as lifting the Govardhana hill is artistically much inferior to the others. It is 1′ 7″ in height and made of black basalt. Unlike other representations of this theme, Kṛishṇa is here shown as supporting the foot of the mountain with his right hand and uplifting it in the centre with a finger of his left hand. It will also be noted that in this sculpture Kṛishṇa has four hands, of which the lower two rest on two figures, a male and a female, probably two of the denizens of Gokula, whom he saved from the torrential rains sent down by Indra.

One of the most beautiful and vigorous examples of the early Bengal School as represented by the Paharpur discoveries is the bas-relief representing Balarāma attacking the donkey-demon Dhenuka (Plate XXXII, *a*). The sculpture is in bluish basalt, 2′ 8″ in height, and shows the youthful figure of Balarāma standing with his left foot over the head of a demon, his right hand turned up to deal a blow at the Asura in the form of a donkey-cum-lion, who has already seized his left arm. The palm-tree to the left, which is more successfully depicted here than in other known examples of this scene, indicates that the incident happened in the palm-grove, of which the Asura was the guardian. Another tree, probably a *Kadamba*, is shown on the right. The dress and ornaments of Balarāma are those befitting a boy; particular among them may be mentioned the two tufts of hair on either side of the crown, known as *kākapakshas* or 'crow's wings'[1]; the torque with medallions peculiar to young boys, and the waist-chain and anklets. The hem of the upper garment is artistically shown and the lower garment reaches to the knees.

The bas-relief depicting the wrestling combat between the two brothers Kṛishṇa and Balarāma on the one hand and the two wrestlers Chāṇūra and Mushṭika sent by Kaṁsa to fight and kill the boys, stands next to the 'Dhenukāsura' sculpture (Plate XXXIII, *a*). It is 2′ 1″ in height and made of blue basalt, but not so well preserved as the preceding one. The ornaments, etc., of the two boys are shown exactly in the same manner as those of Balarāma in the previous sculpture. In the relief, Kṛishṇa has lifted Chāṇūra up and is about to throw him down, while Balarāma is holding the other wrestler with his hands.

Another interesting sculpture is one representing Kṛishṇa's exploit in uprooting the twin Arjuna trees (Skt. *yamalārjuna*), from which were liberated two *asuras*. It is on the north-east side of the temple, which was excavated during the season of 1925-26 (Plate XXXII, *b*). It is 1′ 7″ in height and made of black basalt. The figure of Kṛishṇa can be easily identified by the side-tufts of hair, the torque with medallions around the neck and other juvenile ornaments. He is portrayed holding in each hand the trunk of a tree and trampling on the heads of two prostrate demons. His elongated lobes and peculiar ear-ornaments resembling lilies are noteworthy.

A sculpture representing Balarāma, the elder brother of Kṛishṇa, is 2′ 9″ in height, made of grey sandstone and fixed in a niche, the sides of which are ornamented with bricks cut in a lotus-leaf pattern. The five snake-hoods on the head, the wine-cup in the lower right and the ploughshare in the upper left hands are the distinguishing marks of Balarāma. The figure has all the full ornaments of a deity. The sacred thread (Skt. *yajñopavīta*), the waistband (Skt. *kaṭibandha*), the band just above the navel (Skt. *udarabandha*) and the protuberances at the knee-joint are shown in characteristic Gupta fashion. Of the two attendants flanking the central figure, the female holds a jug and a pot of wine.

[1] In literature, but not hitherto represented in sculpture.

A well-executed sculpture representing Yamunā is 2′ 6″ in height and of grey sandstone. It is fixed in a niche decorated with cut bricks of lotus-leaf pattern but not as well-preserved as the preceding figure. The goddess stands on a tortoise, her special vehicle, while both her male and female attendants stand on crabs. She has the usual ornaments and her lower garment is particularly remarkable for its elegant horizontal folds. In the background is a lotus plant with two full-blown flowers and pairs of geese perched upon them. The female attendant holds a casket in her left hand and is gracefully modelled. The male attendant to the left of the goddess holds an umbrella over her head.

The sculpture representing a pair of figures distinguished by haloes round their heads (Plate XXXII, *c*), which stands in the same wall as the images of Balarāma and Yamunā, is probably the most important discovery of the year, if their identification as Kṛishṇa and Rādhā is correct. It stands in an elaborately carved niche, is 2′ 6″ in height and made of grey sandstone. Rādhā and Kṛishṇa are standing side by side with legs crossed and their arms passed round each other. The left hand of Kṛishṇa is placed in front of the chest in what looks like the *abhaya-mudrā*, while the right hand of the female figure hangs down as in the *varada-mudrā*. It is, however, difficult to say whether these attitudes are really meant to convey the mystical significance attached to them in the Buddhist canon. The male figure is clad in a scarf and a close fitting loin cloth reaching to the knees, while the drapery of the female consists of a fuller lower garment which covers the legs down to the ankles. Another amorous pair lack the restraint and elegance of the Kṛishṇa and Rādhā sculpture and the position of the slab does not indicate that any particularly divine significance was attached to it, although it may in some way be connected with Kṛishṇa's amours in Gokul with the *gopīs* or cowherd women.

Of the sculptures not directly connected with the adventures of Kṛishṇa or the Kṛishṇa cult, the one representing the god Indra is in many ways a remarkable piece of work. It was found in the same wall in which the sculptures portraying the killing of Dhenukāsura and the wrestling combat of Kṛishṇa are fixed. The reason of the presence of this image would appear to be Indra's association in the event which led to the lifting of Govardhana by Kṛishṇa or more probably as the Guardian of the East Quarter. The sculpture is made of black basalt and is 2′ 6″ in height. The deity has two arms and a halo behind his head; his hair falling in curls on his shoulders. The objects in his hands cannot be identified. Nor is it apparent why the forehead has been marked with the third eye, which is generally associated with figures of Śiva (*Tryambaka*). The elephant, Airāvata, standing behind the deity leaves no doubt, however, as to his identity. On grounds of style, the relief is definitely assignable to the Gupta period and will rank high among the products of that age. Agni, the God of Fire and Guardian of the South-east Quarter (Plate XXXII, *d*), is appropriately shown in this, the south-east side of the temple. According to the *Śāstras* he has two heads, four horns, seven hands and three legs, and is borne in a chariot with seven wheels drawn by red horses. In the present relief he appears with two hands and a single head, the only indication of

his identity being the halo of flames behind his shoulders. The vehicle of the god, probably the usual ram, is lost. His matted hair, the rosary and what looks like a tiny *kamaṇḍalu* in his hands and his long ear-ornaments appear to show that Agni is here conceived as a prototype or associate of Śiva in his ascetic form.

Equally appropriate is a standing image of Yama, the god of Death and the Guardian of the Southern Quarter, which appears in the main southern wall. The only distinctive mark of the god here is the noose (*pāśa*) thrown round his head like a halo, its extremities held in the hands of the deity. His vehicle, the buffalo, is not represented. The sculpture is 2′ 6″ high and made of blue basalt, which is also the material of the coping stone covering the niche. The attendants are, as usual, a male and a female each holding a noose in one of the hands. As far as I am aware, this representation of Yama is unlike any other so far known to us, so that it is not impossible that the *Sadhanas* or directions, according to which the images at Paharpur were made, were different from those in use in later times. The iconographical details supplied by the images being described are expected considerably to extend our knowledge of this subject.

The image of Gaṇeśa (Plate XXXIII, *c*) is fixed in a niche in the first angle on the south-eastern side. It is 1′ 9″ high and 3′ 9″ wide, and made of grey sandstone which is fast scaling away. Gaṇeśa is seated, as usual, with widened legs, holding in his four hands a trident, a bunch of leaves, a rosary and a snake respectively. Gaṇeśa's vehicle, the mouse, is roughly incised in front of the pedestal. Another figure of Gaṇeśa in stone was found on the north-east side as well as two terracotta representations of the deity, but they vary considerably in detail.

Of the various forms in which Śiva appears in the stone reliefs unearthed at Paharpur, four merit special mention. One of them (Plate XXXIII, *b*) representing the offering of poison to the god has already been referred to. The common characteristics of all these figures of Siva found at Paharpur are the *ūrdhvaliṅga* or *penis erectus*, matted hair and the third eye on the forehead which with the almost ubiquitous rosary (*akshamālā*) and pot (*kamaṇḍalu*) are enough to indicate that the god is here conceived in his severely ascetic aspect. There is no trace at Paharpur of the combined seated Hára-Gaurī type which was by far the most popular type in vogue during the Pāla period in Bengal. The Śivaliṅga is found only once in a terracotta plaque, but nowhere in stone.

The second of the four forms referred to in the preceding paragraph, all of which are standing figures, has a kneeling bull to its right and a snake above its right shoulder. The heavy staff in the left hand of the deity is presumably the trident (*triśūla*).

The third figure which occurs in the south wall of the temple by the side of the image of Yama referred to above, has the right hand hanging down in the gift-bestowing attitude (*varada-mudrā*) and a trident in the left hand. The eyes are closed and the face wears a profoundly meditative expression. A snake is entwined round the neck of Śiva.

The fourth figure is also built in the southern wall but at the eastern end. Here Śiva has a halo behind his head, and snake ear-ornaments (*sarpa-kuṇḍala*) and holds a rosary and a *kamaṇḍalu* in his hands. The beatific smile on the face of Śiva in this sculpture is striking. It should be remarked that, while the right hand jamb of the niche is in stone, the left one is of brick, and as the floral patterns in brick, though identical in design are undoubtedly copied from the stone work, it may be assumed that the images were brought to the spot before commencing the brick work.

Some of the representations of attendants and minor divinities, found last year, deserve attention. One is a dancing figure on a double lotus seat in the *karihasta* (or elephant-trunk) pose, in which the right hand points gracefully to the left knee. Another dancing figure holding an uncertain object between the hands above the head is a decidedly inferior piece of work. A well carved figure of a boy on the south-west side of the temple may possibly be identified as the boy Kṛishṇa (Bāla-Gopāla). He wears a necklace of tiger's claws and holds in the right hand what may have been meant for a sweetmeat ball (*modaka*). Another relief fixed in the niche next to the Gaṇeśa sculpture on the south-east side of the temple apparently represents a Vidyādhara in flight. He holds a garland between his hands and wears socks or boots which are ordinarily found only on images of the Sun-god. The sculpture is made of white stone resembling steatite, unlike the material of any other stone image found at Paharpur.

Some of the sculptured slabs fixed in the basement of the Paharpur temple are distinctly narrative in character, the scenes depicted being mostly those familiar to the readers of the Hindu epics, the Rāmāyaṇa and the Mahābhārata. The only possible exception is a bas-relief which was discovered on the south-west side. It portrays a woman standing with crossed legs and grasping the branches of a tree above. To her right is a child resting its left elbow on her hip, and, further out, a man with right hand touching his lips, as if in amazement. The whole scene brings to mind the nativity of the Buddha in the Lumbinī garden, the woman under the tree being Māyādevī, the mother of the great Teacher, and the male figure the god Indra who received the baby as soon as it was born.

Of the sculptures definitely connected with the story of the Rāmāyana, one (Plate XXXIV, *a*) represents Hanumān or an other monkey warrior carrying three rocks, one on his head and one on each of his uplifted hands, for the making of the bridge by which Rāma's army crossed over to the island of Laṅkā. The figure to the right of the monkey hero is a Nāga or a Nāgī.

Another scene from the Rāmāyaṇa illustrates the fight between the brother monkey-chiefs Vāli and Sugrīva for the possession of Tārā, the wife of the latter. The hero hurling a missile is to be identified as Sugrīva and the other clasping the female in his left arm as Vāli. The female and the fourth figure falling to the ground between the combatants must be Tārā and her son, Aṅgada, respectively.

Another slab fixed in the centre of the western wall, represents a fight between two archers, one seated in a chariot and the other on the shoulders of a standing figure. From the haloes at the back both figures appear to be of a divine character. The scene can be identified as the fight between Arjuna, the hero in the chariot and Kṛishṇa on Garuḍa, the occasion being the abduction by Arjuna of Subhadrā, the sister of Kṛishṇa. The female figure with her head hanging down between the arms and seen in the forepart of the chariot should then be identified as Subhadrā. The same event is depicted in the cave at Badami, which also contains other scenes from Kṛishṇa's life.

In spite of the fact that a large number of Vaishṇava, Śaiva and other Brahmanical images have been discovered at the Paharpur temple, it seems certain that the monument must, in its latest and possibly extended form, have belonged to the Buddhist faith and remained in the possession of Buddhist worshippers till late in the Pāla period. It is not possible otherwise to explain the arrangement of the surrounding quadrangle forming a monastery, the discovery of tablets with the Mahāyāna Buddhist creed and another mentioning a *vihāra* built by Dharmapāla, and many stone and terracotta sculptures of an undoubtedly Buddhist character. One of the terracotta plaques on the east side of the temple represents Buddha's enlightenment at Bodhgaya. The face of the image is damaged, but other details, such as the *vajra* on the seat, the foliage of the Bodhi tree behind the halo and the hand in the earth-touching attitude, are sufficiently clear. On either side of the Buddha are what appear to be pillars or towers of stone which are very commonly met with on terracotta plaques at Paharpur, but the exact significance of which is not clear.

Another plaque of the same material (Plate XXXIV, *c*) represents the Bodhisattva Padmapāṇi seated at ease on a lotus throne. The indistinct figure of a Dhyāni-Buddha is to be seen in the crest. Besides this, there are over a dozen plaques which clearly belong to the Buddhist faith, including representations of Bodhisattvas and the Buddhist goddess Tārā.

The only loose stone image discovered during the year under report, was the lower part of an image of a Bodhisattva fully ornamented and seated on a double lotus seat. On grounds of style this sculpture is definitely assignable to the late Pāla period. It was found in the débris of the second terrace verandah on the east. This find may be taken to indicate that the temple continued to be in the occupation of the Buddhist worshippers till the eleventh century A.D.

The only stone image *in situ* of an undoubtedly Buddhist character was one found fixed in the South basement wall of the Paharpur temple. The face and hands are much mutilated, probably by iconoclasts but a well preserved lotus which was held in the left hand of the image clearly marks it as a representation of the Bodhisattva Padmapāṇi. There is an attendant on each side of the deity, standing on a lotus seat but the faces of both are disfigured. The sculpture appears to date from the 7th-8th century A. D., or a century or two later than the Kṛishṇa reliefs described above, but the latter have escaped the rough handling to which the former was subjected. Its position in the centre of the southern face of the monument and the existence of a masonry *kuṇḍa* or

tīrtha reservoir in front of it, show that it was invested with special importance in the eyes of the worshippers. Immediately to the right of this figure, a wall runs at right angles to the main wall of the temple, forming the plinth of a later structure. In the centre, a little to the east, there was another platform on the top of the one referred to. At a distance of 20′ from the main wall there existed a low mound in which a square structure over-laid with two concentric circular structures was discovered. It was most probably a round stupa on a square platform. Two fragmentary plaques each stamped with a figure of the Buddha and the Buddhist creed were found in this stupa. It seems evident, therefore, that Buddhist worship played an important part, at least on the south side of the basement of the temple, before the final catastrophe that brought on the ruin of this wonderful structure.

An important find of the year, to which allusion has been made above, is an impression in clay of the seal of the community of monks resident in the *vihāra* at Somapura built by Dharmapāla, the well-known Pāla Emperor of the ninth century A.D. The upper part of the sealing is occupied by the wheel of the law, flanked by two deer, which symbolizes the Buddha's first sermon and is so frequently met with on the copper plate grants of the Pāla dynasty. The marks on the reverse of the sealing indicate that it had been attached to a document or parcel.

The number of terracotta plaques already discovered at Paharpur, is very great. They comprise over 1,000 loose plaques recovered from fallen débris, of which as many as 431 were found during the year under report, and at least 1,850 plaques, which still remain in their original positions, in the walls of the temple. The value of this material to the student of the early plastic art of Bengal can hardly be exaggerated. A detailed treatment of them is reserved for a separate Memoir on Paharpur. Here, it is only possible to allude to a few representative specimens of the recent finds. They include a representation of a stupa complete with basement, drum and dome crowned by a *hti* on the south-west side of the temple; a conical *sikhara* with an *āmalaka* on a much weathered plaque on the south-east; a beautifully modelled human head in the south-east verandah; a running elephant and a dancing woman accompanied by a child (Plate XXXIII, *d*); a musician playing on a lute (Plate XXXIV, *b*); and a naked boy running away with a pot on his head (Plate XXXIII, *e*). The last is followed by an attendant, who holds an umbrella over him and reminds one of the young Krishṇa who carried off pots of curds from the houses of cow-herdesses. Mention may also be made of a Gandharva flying in the clouds, on a plaque on the south-east side of the monument; a human head peeping through a circular window; four similar heads looking out of the windows of a battle-mented mansion; a four-headed figure of Brahmā and four-handed figures of Vishṇu and standing Gaṇeśa, such as have not yet been found in stone at Paharpur. The subjects depicted on the plaques not noticed in this resumé include a wide range of Hindu and Buddhist mythological figures, men, women and children in various attitudes, groups and acts, domestic and wild animals, birds and snakes, fruits, flowers, trees and other products of the vegetable kingdom.

TRIAL EXCAVATIONS AT ALLURU, GUMMADIDURRU AND NAGARJUNIKONDA.

By Mr. Muhammad Hamid Kuraishi.

I. ALLURU.

The village of Alluru, in the Nandigama Taluk of the Kistna district, is situated at a distance of four miles from Yerupalem, a small station on the Bezwada-Hyderabad Railway line, and some 30 miles from Bezwada town. The majority of the population are Reddies and Oddars, but there are a few houses of Brahmins and Mussalmans also, on which account the village is much neater and cleaner than the majority of villages in these districts.

About two furlongs south-west of the village and about a hundred yards to the south of a grove of large tamarind trees and umbrella palms, is a mound containing the remains of an ancient stupa. It is some 6 feet high above the surrounding fields which stretch for miles to the north, west and south. The site had been excavated in several places by amateur archæologists before I commenced work on 18th September, 1926. My operations began with two long trenches crossing each other at right angles at the centre of the mound; and in the course of the seven or eight days that I worked there, I was able to trace the complete plan of the monument and to fill in the excavations again for safety from the neighbouring villagers.

In general outline the plan of this stupa resembles a large wheel complete with hub, spokes and tyre; but there are a few slight differences. The stupa in the middle is a solid structure, 32′ 8″ in diameter, and built of bricks measuring 21 to 22 inches long, 10 inches wide and 3 inches thick, carefully laid in thin layers of mud mortar. Around the stupa, at a distance of 11 feet, is a heavy retaining wall not less than 11 feet thick and constructed of bricks varying from 17 to 21 inches in length, 10 inches wide and 3 inches thick. From this retaining wall emanate a number of cross walls, alternately 1 foot and 2 feet in thickness, to join the outer face of the stupa structure. They form 16 chambers which, for purposes of economy, were all filled in with loose earth and brickbats. On the four sides of the stupa, facing the cardinal points, are four projections in the outer face of this retaining wall measuring 14′ 8″ wide and 2′ deep.

Around the stupa and resting partly on the thick retaining wall was a concreted procession path 10 feet 6 inches wide, enclosed on all sides by a brick wall, the lower portion of which (about 8″ high) alone remains to show that it was plastered on the inner and outer faces and that it was only one brick in thickness. At a later date, when the old enclosure wall had fallen to ruin, a thicker wall, 3 feet 4 inches wide at the base and 2′ 6″ at the top, was built on the top of it. The new enclosure wall was pierced with an entrance on each of the four sides immediately opposite the projections of the thick retaining wall referred to above, and a pavement of slate slabs was laid all over the procession path upon a three inch layer of concrete, about 2 feet 6 inches above the existing top of the old wall.

The excavations were carried right down to the foundations of the heavy retaining wall, the thin cross walls and the stupa itself—both inside and out. Before the construction of the stupa the whole ground, which was composed of hard black soil, was probably dug to a depth of about a foot or so and levelled for the purpose. No concrete foundations were provided for the walls or for the central solid structure of the stupa, though brick and lime concrete with a good admixture of coarse gravel was rammed in to a height of about 1½ feet in the area occupied by the procession path as well as inside the hollow chambers around the central stupa, and was protected at the top with a coat of very good lime plaster, 1½″ thick. No traces of any stone balustrades, umbrellas, or even loose pavement slabs from the berm were discovered on the site. It is obvious, however, that as in the stupa at Amaravati and those at Gummadidurru and Nagarjunikonda, the outer face of the retaining wall at Alluru was decorated with bas-reliefs. It is also evident that the stupa had a set of five pillars in front of each of the four projections referred to. One such pillar with floral decoration and an incomplete Brahmi inscription of 13 lines was found in the small temple in the adjoining village, while fragments of three others came to light during my own excavations. Such groups of pillars also occur at the Nagarjunikonda Stupa.

The centre of the stupa was dug down to a depth of 16′. To a depth of 7′ 2″, the core was made of bricks regularly laid in mud; below this was black virgin soil of a hard texture going down to a depth of 6 feet; and three feet lower down my excavation terminated on a solid rocky surface of a brittle quality. No relic chamber, relics or even broken potsherds or dressed stones were found either in the brick structure or below it. But the stupa had been excavated before and unless any relics had been found during those excavations, of which there is no record, I am inclined to believe that no relics were ever enshrined in this stupa, which was presumably erected merely to commemorate some important event in the history of local Buddhism.

Only a few broken sculptures of greyish marble with shallow carvings of an early style were discovered near the projections on the north and west sides. Chief among these are:—

(1) The lower right end fragment (1′ 11″×1′ 4″) of a relief discovered near the north projection. It shows a standing *bhikshu* with a dwarf in front of him carrying a bowl on his head, and a woman seated behind him with cakes in one hand, the other hand being raised towards the monk.

(2) The lower part (1′ 4″×1′ 2½″) of a narrow relief showing a pair of couchant deer, which probably belonged to a representation of the Buddha's First Sermon in the Deer Park near Benares.

(3—4) Fragment, (height 11″, width 1′) of a square inscribed pillar with truncated corners. It bore an inscription of four lines in Brahmi characters, the greater part of which was destroyed when the stone was in later times re-used to serve as the left hand jamb and back slab of a niche which probably contained a stucco image of some deity. Part of a stucco head (No. 4) was indeed discovered in

the near vicinity. It measures $4\frac{1}{2}''$ high and $3''$ across and still bears the traces of paint on the lips. The eyes are rather sunken and the lower lip is thick.

(5) Two inscribed fragments, one of which ($4''\times3''$) formed part of a pillar and the other ($3''\times2''$) of one of the reliefs around the stupa.

(6) Fragment showing the fore-front of a lion (facing to right), which evidently projected from one of the ends of a long frieze placed over the reliefs which once decorated the stupa. (*Cf.* frieze from Nagarjunikonda).

(7) A few broken fragments chipped off from a sculpture, showing floral decorations and medallions containing human pairs in dancing attitude, and a large number of small fragments exhibiting heads, busts, torsos, legs and other limbs of human and animal figures, or fragments of floral designs, all of which originally belonged to the reliefs referred to.

II. Gummadidurru.

Half a mile north of Ramreddipalli, an Agraharam village situated some 6 miles from Madira station on the Bezwada-Hyderabad Railway line, is a short range of bare hills properly situated within the limits of the Government village of Gummadidurru in the Nandigama Taluka of the Kistna District. The large eastern spur of this range is some 100 feet high above the surrounding fields and its flat top, which is about 250 yards in length and about 100 yards in width, provided an excellent site for the Buddhists to erect their religious structures, which, it may be noted, are situated only about 6 miles to the east of the famous stupa at Jaggayapeta in the same Taluka. Generally speaking the country is dry; but the view from the top of this spur is magnificent in the rains, the green fields stretching for miles and miles on the east and south up to the foot of the Kondapalli range and other hills far beyond, showing off in pleasant contrast the muddy water of the Moniyer and other smaller rivulets, tanks and canals.

The plateau on which these monuments are situated may be divided into three sections. The central section, which is higher than the rest, is occupied by the Main Stupa at its south edge with a number of minor stupas on three sides. The western portion is some 4 feet lower and was no doubt occupied by the Monastery buildings; while the north-eastern portion, which occupies a still lower level, contained subsidiary buildings, such as votive stupas, etc. To the north of the monastery area and immediately at the foot of the higher ranges are the remains of a large tank.

The whole ground was strewn over with brickbats, when excavations were commenced by me on 20th October 1926; and the existence of the Main Stupa was only marked by the broken tops of a couple of sculptures on the south side.

Half a dozen trenches were dug by me in the monastery area to the west; but with the exception of a long wall running east to west and another wall pass-

ing over it at right angles, no buildings could be traced. This, however, does not mean that no better preserved structures lie buried in this area.

The trial excavations conducted by me on the central or stupa area were more fruitful. A long trench taken north to south across it revealed two small stupas to the north of the main stupa. One of them is a square votive structure of no special interest. It measures 5 feet each way and is constructed of bricks, 18″ long by 10½″ wide and 3″ thick. The other stupa was found a few yards to the north of the main stupa in the apse of what appears to have been an apsidal temple. It is circular on plan and was originally constructed of carefully chiselled curved blocks of grey limestone, but all that now remains above the surface is only a portion of the plinth course. The structure is only 10 feet in diameter, but it is interesting inasmuch as it was constructed, like the Maniyar Math at Rajgir in Bihar, with a hollow circular chamber running down to its base. This chamber was excavated by me to a depth of 12 feet below the surface of the plateau, when a very hard layer of reddish rock gravel was reached, but yielded no relics of any kind. From the style of workmanship and the fact that this stupa rises approximately from the same level as the Main Stupa, I am inclined to think that it must have been constructed shortly after the completion of the Main Stupa, which to judge from the inscriptions and from the style of the reliefs is ascribable to the 2nd-3rd century A.D.

The Main Stupa, which is the most important structure on the site, is built on a rock-bed and is ornamented on its outer face with a number of reliefs alternating with narrower reliefs or steles, almost all of which unfortunately are incomplete, having lost their upper portion (Plate XXXV, *a*). Only one complete specimen was recovered, and this is broken into two across the middle (Plate XXXVI, *c*). The stone used for these reliefs, is the same grey marble as that at Amaravati and Jaggayapeta. Each of the larger reliefs shows a stupa in the centre ornamented with five pillars above the middle and with several horizontal bands of floral and decorative designs, interspersed with medallions containing human figures, etc., and surmounted by the usual *harmika* railing, umbrella and flags, and flanked by groups of flying celestial worshippers carrying offerings. On the drum of the stupa are portrayed several miniature groups generally representing incidents connected with the historic or mythic lives of the Buddha.*

* Some of the scenes which can be definitely identified on this and other reliefs are mentioned below :—

1. A scene which is frequently repeated in these miniature panels is that of the first 7 steps of the new born Bodhisattva, represented by a stalwart young man lunging forward with his right foot placed on a lotus flower.

2. In Relief No. 1 (Plate XXXV, *b*), the upper miniature scene at the right end, showing a man presenting a pair of elephant tusks to a lady, possibly represents the last episode of the Chhadanta Jataka story.

3. In Reliefs Nos. 11 (Plate XXXVI, *a*), 13 and 17, the principal scenes show the Buddha seated in meditation under the polycephalic hood of a serpent, a design which according to Mons. Foucher is " as rare in India as it is frequent in Indo-China." The only other known example of this representation is a painting in Cave VII at Ajanta, which however is considerably later than these Reliefs of Gummadidurru. (*Vide A. S. W. I.*, IX, Plate XXVII ; and *J. H. A. S.*, 1919-20, p. 91).

4. One of the miniature panels in Relief No. 11 shows the Bodhisattva as the charitable king of the Sibis, seated on the ground with a drawn sword in his hand giving away one of his eyes to Indra who is disguised as a Brahman. A painting of this Jataka is seen on the right wall of the hall of cave XVII at Ajanta.

5. In Relief No. 14 (Plate XXXVI, *b*), the miniature scenes represent the story of the Bodhisattva as prince Vesantara.

6. In one of the left hand miniature panels of Relief No. 15 (Plate XXXVI, *c*) is probably shown the Sibi Jataka No. 1 in which the Bodhisattva gives his own flesh to save the life of a pigeon. Here the Bodhisattva is seen seated on the ground and with a sword cutting off a piece of his flesh from the left thigh, while an attendant stands behind with the scales in his hand. (*Vide J. H. A. S.*, 1919-20, p. 64, for a similar painting at Ajanta.)

Below the five pillars, which, it may be observed, is the usual number actually set up at the four cardinal points of the stupas of that age in this part of the country, there are decorative bands adorned with little bosses apparently to represent the berm and ground railings. The lowest band of sculpture on this relief shows the seated figure of a Buddha, or a Wheel on the top of a pillar, in a square niche with the usual devotees and donors. As such sacred sculptures are frequently met with against the actual stupa structures immediately behind the entrance gates, the opening shown in front of the relief I am describing may safely be taken to represent one of the gateways of the stupa replica. In this sculpture, moreover, which is the only complete relief extant, we find, above the stupa relief, a horizontal band of sculpture divided into several panels with a row of lions' heads underneath. The smaller panels show pairs of worshippers or spectators and the larger ones scenes from the previous existences of the Buddha.

The narrower reliefs in between the larger ones are also incomplete (with one exception) and are generally decorated with the figure of a pillar or a tree with a wheel or trident above and deer, svastika or feet of the Buddha below, accompanied by the usual devotees and donors. One of these reliefs on the west side, however, is complete and very interesting. It is a fine sculpture, showing a figure of a Buddha or a Bodhisattva standing in the *varada-mudrā*. To the proper right of the deity is a deer and, lower down, a kneeling figure, possibly the donor, the top of the sculpture being occupied by what looks like a snake deity. On the pedestal of this sculpture is a Brahmi inscription of four lines in minute characters, which may possibly reveal the name of the deity represented.

Besides these reliefs, which are 34 in number including the narrower sculptures in between the larger ones, I discovered a long but incomplete frieze broken into two, which represents a royal court with musicians in one of the panels and a royal procession going to worship the Buddha (?) in another, while the intervening panels show pairs of human figures, probably spectators. Below the row of lions' heads under these panels, is engraved a long Brahmi inscription, unfortunately much defaced. As the two pieces of this frieze were unearthed within a few inches of the reliefs decorating the western projection,

7. In Relief No. 22 (Plate XXXVI, *d*) the principal scene shows a haloed figure of the Buddha seated under the Bodhi tree. A similar scene on Relief No. 30 is accompanied by two of Mara's daughters and several demons, representing human vices, standing on either side of the Buddha. From this it would appear that in the Temptation or Enlightenment scenes in the South Indian Reliefs the Buddha is not shown in the *bhumisparśamudrā*, as is usual in the North.

8. One of the smaller scenes in Relief No. 27 shows Maya standing under a *sala* tree holding a branch with her left hand while the new born babe is received by the Guardians of the Four Quarters.

9. In Relief No. 32, the principal scene shows a figure of the baby Bodhisattva wearing ornaments and seated in meditation under a *jambu* tree. This first meditation of the Bodhisattva led ultimately to the great Renunciation, which is depicted in the panel just above this one. To the right of the Renunciation scene is shown 'the Conception of the Bodhisattva' or 'Maya's dream.'

10. The principal scene in Relief No. 35 shows the subjugation of the mad elephant by the Buddha at Rajgir. The smaller scenes depict the first seven steps of the baby Bodhisattva, the life of pleasure he led as a young man in the palace of his Royal father, the great Renunciation, the Temptation and the First Sermon at Sarnath.

It may be observed that in these reliefs the Buddha does not appear to be represented in human form in any of the incidents connected with his life after attaining the Enlightenment, his presence being marked by his feet, *chakra*, *bodhi* tree or similar symbols, as in the earlier reliefs at Sanchi. But in the scenes which relate to his previous lives, and to his historical life before the Enlightenment, he is always represented in human form.

I have no doubt that it was originally placed on the top of the reliefs on that side. A section of a similar frieze was also found a few inches to the right or north of the east projection, and from its position it is quite clear that it must have fallen from above. My excavations revealed a fragment of yet a third frieze which must have surmounted the south projection, though all the reliefs on that side had disappeared. Mention should also be made here of fragments of octagonal buff sandstone pillars which came to light near the north and west projections of the stupa and may be remnants of groups of pillars which, to judge from the reliefs discussed above, stood on all four sides of the monument.

One of the most interesting features of the Main Stupa is its plan. The central stupa, as it stands, is square in form and constructed of bricks, its core consisting of small rubble stones and brickbats laid in mud. From the corners and sides of the square structure emanate eight walls, each about 2 feet in thickness, to join a heavy retaining wall about 9 feet thick, which forms a circle all round but which is faced with bricks only on the inner side to a depth of about 15," the facing on the outer side being an extremely loose and *kachcha* construction of brickbats in mud, and the core consisting of brickbats and rubble stones set in a very inferior mortar with loose earth in between. On the outer face, this wall was coated with a four inch thick and extremely strong layer of lime concrete, to which were fixed the reliefs mentioned above, as well as the small stone slabs on which they were made to stand. Facing each cardinal point, were projections about 15 feet wide and 2 feet deep, the pavement slabs used in front of them being more regular in shape and larger in size than those used in the rest of the *pradakshiṇāpatha*. Below the retaining walls emanating from the central stupa was found a series of thin walls forming squares or rectangles, and one of these walls was found within and underneath the square structure in the centre of the stupa. These walls go to a lower depth than the upper ones, are plastered on both sides as well as on the top, and the spaces enclosed between them are filled in with strong stone-in-lime concrete well rammed in. This layer of concrete, though only 2 to 3 inches thick, was continued and made one with the thick continuous layer of concrete behind the reliefs. As there is hardly any earth between their tops and the lowest courses of the upper walls, it is obvious that they were constructed at the same time as the upper walls; and the real object of their construction was partly to provide a strong and firm foundation for the stupa, but chiefly to provide a good support at the back of the reliefs.

The site seems to have been wantonly destroyed and subsequently pillaged for centuries after its desertion by the Buddhists, for no less than 10 reliefs and 20 pilasters are completely missing, as well as almost all the chiselled stones from the Stone Stupa mentioned above.

Amongst the minor antiquities discovered at the site are two lead coins of the Andhra period unearthed from the monastery area to the west, at a depth of about 9" below the surface; three stone beads from the same area; a number of fragments (some of them inscribed) chipped off from the reliefs around the Main Stupa; 127 clay tablets of the size of an eight-anna piece and bearing the

Buddhist creed in Nagari characters of the late mediaeval period from near the Stone Stupa; a damaged silver relic casket found outside the north wall of the central square structure in the Main Stupa; and fifteen pieces of a gold necklace (Plate XXXVIII, *a*) found in an earthen pot which was buried face downwards at the south end of the lower square in the south-west quadrant. Some of the seals are of a larger size (about 2″ in diameter) and, besides bearing a longer legend, are stamped with a row of five stupas at the top.

The double silver relic casket was found some 18″ above the floor level of the lower square immediately to the north of the north wall of the square structure of the stupa proper, and did not contain anything but earth and a tiny bit of bone. Nor was it found inside a relic box as is commonly the case. The centre of the stupa was marked by a *svastika* made of bricks, with a hole about 2″ square in the middle, which may have been intended to help the masons in marking the correct circle of the outer retaining wall. No relics or relic casket were found in this hole. From this circumstance, I am inclined to think that the silver casket referred to above must have been the original relic casket deposited in the Main Stupa at the time of its construction. It is not impossible that the casket was placed at a distance of some 6 feet to the north of the centre of the stupa, in order to save it from any vandals who might attempt to despoil the structure. All the 15 beads of the gold necklace mentioned before are hollow inside, having originally been filled with shellac.

Some 80 feet to the north and north-east of the Main Stupa, I dug another long trench and discovered in it the bases of four small circular stupas. Another trial trench sunk in the lower area to the north-east of the Main Stupa, revealed half a dozen small circular stupas which do not appear to contain any relics.

III. NAGARJUNIKONDA.[1]

The valley to the south of the Nagarjunikonda hill is surrounded on all sides by ranges of hills sparsely covered with low bushes. The valley itself is strewn with numbers of detached rocks or hillocks interspersed with fields unsuited for any superior crops. The ancient Buddhists took advantage of almost every hillock or rising piece of ground in this area for building their stupas, monasteries and chaityas.

Site No. 1 (Ubagutta).

The most important stupa in the valley is situated about its middle and is locally known as the Ubagutta (Upagupta?) or "the mound of the owl," but referred to as 'Mahachaitya' in the inscriptions. Two lofty but broken octagonal pillars of grey marble were standing, one on the east the other on the north face of the stupa, and as the eastern pillar bore an inscription, the stupa was excavated by some treasure-seekers or amateur archæologists long before its existence became known to the officers of the Archæological

[1] In the Palnad Taluka, Guntur District.

Department. My own trial excavations at Nagarjunikonda were begun at the great stupa itself in the hope that some of its reliefs and inscriptions and possibly also the relics which may have been deposited in it may yet be found. The plan of the stupa, in so far as the retaining walls are concerned, is an interesting one. Most of the large stupas excavated up till now in the Madras Presidency are wheel-shaped, having a single massive retaining wall with a number of cross-walls making a series of chambers all round the central structure, which is usually solid, but occasionally provided with a relic chamber in the centre. But the large stupa at Nagarjunikonda (Plate XXXVII, *b*), which has a diameter of 76 feet, has three retaining walls, with the result that there are no less than three rows of chambers (8 in the inner, 16 in the middle, and 16 in the outer row) around the central structure (18′ 3″ diameter), which was originally constructed of regular courses of bricks laid in thin layers of mud. The whole of the stupa, including the rows of chambers referred to, had been dug and filled in again by the previous explorers only a small fragment of the central solid construction being left intact. I re-excavated the entire structure and filled it in again after the necessary plans and photographs had been taken. The Buddha relics which, to judge from the inscriptions, had been enshrined in this stupa, had already disappeared. But other results were achieved by my excavations. One interesting fact that came to light was that, facing the cardinal points, was a set of 5 pillars (Plate XXXVII, *a*) on each side of the stupa, just as such pillars are seen in the reliefs of the stupas at Amaravati and Gummadidurru in the Guntur and Kistna Districts. With the exception of two, all the pillars had fallen down and were buried several feet underground. When unearthed they were found to bear long Brahmi inscriptions on the lower part of their octagonal sections which are expected to shed considerable light on the history of this Buddhist colony of the 2nd century A.D.[1] These pillars measure 1′ 10″×1′ 6″ at the base (bottom face), are rectangular up to a height of 4′ 6″ above the ground and octagonal above. The angles of the octagonal sides are carried up to the top in the shape of ribs. Their octagonal sides measure 10 inches and 8 inches alternately and at the transition of the rectangle to the octagon the arrises are rounded off. There were no capitals or lintels over these pillars. The stupa was enclosed by a brick wall 2′ 6″ thick, with four entrances, 14 feet wide, situated exactly in front of the pillars on each side. The exact width of the *pradakshiṇāpatha* and of the berm could not be ascertained, nor could I trace the steps which provided access to the berm, but the enclosure wall was found to be 18′ 1″ distant from the outermost retaining wall (which was plastered on the outer face) and only 10 feet distant from the line of the pillars. Incomplete as it was, the whole excavation was filled in again. And although the inscribed pillars might eventually have to be removed and placed in a shed, it was considered advisable in the meanwhile to cover them up with spoil earth in order to protect them from ignorant visitors.

[1] Three of these inscriptions have already been discussed in the *Annual Report* for 1925-26 (Ed.).

Some 50 yards to the east of the large stupa are the bases of 36 pillars which once supported the roof of a pillared hall, possibly in front of a monastery, of which latter, however, there are no indications at present above the ground. Some 20 yards east of the Great Stupa is an apsidal temple with a small, broken stupa in the apse, and a Brahmi inscription of two lines incised on the floor along the right or west wall of the nave. The temple faces north and measures 53′ 8″ in length, including the apse, and 22 feet in width. The stupa measures 8 feet in diameter. The walls are 5′ 6″ thick. The inner stepping stone of the threshold has a semicircular curvature at either end, and on the outer edge of the threshold were fixed two stone slabs on end projecting some two inches above the threshold level.

The stupa in the apse probably rose to a height of some 8 feet, and when complete with its *harmika*, etc., must have looked very much like the stupas in the rock-cut caves at Nasik and Karli in Western India. All the face stones of this stupa were scattered about on the stone pavement of the nave of the apsidal temple.

Excavations inside the core of the stupa did not yield any relics. The temple was again filled in to safeguard the inscription referred to from ignorant visitors from the neighbouring villages.

The way from the village to the Great Stupa passes through two whale-back shaped mounds (sites Nos. 2 and 3) locally known by the common name of Nallarallabodu (Blackstone mound), on the flat tops of both of which are situated the remains of a stupa and a monastery.

Site No. 2.

The stupa on the southern mound is situated at its southern extremity and is only standing to a height of about 2 feet above the floor level. It consists of a solid circular structure in the centre only 5 feet in diameter, surrounded by a 12″ thick retaining wall, which is joined to the central structure by four cross walls, thus forming a chamber in each quadrant and increasing the diameter of the stupa to 27 feet. Facing the cardinal points are projections 7′ 10″ wide by 1′ 6″ deep, which probably served as steps and gave access to the top of the circular retaining wall, part of which may have been used as the berm. Underneath the stupa in question were brought to light the foundations of two other stupas, which must have been in ruins for a long time before the later one was constructed. Excavations were carried out in the centre of both the upper and the lower stupas, but did not disclose any relics.

The monastery on the top of the hillock measures 73′ 2″×56′ and consists of a series of 4 cells on each of the north, east and west sides and a pillared hall 30′ 6″×30′ on the south, with an open court situated between the pillared hall and the stupa. The verandah between the hall and the cells on the three sides was 8′ 9″ wide, so that, if we include this verandah also, the covered space in front of the cells would have been 39′ 3″×38′ 9″. The court in front of the monastery was not excavated; so it is not possible to say whether or not it contained a tank or well in the centre. The roof of the hall rested on

16 stone pillars which were 1′ 5″×8″ in section and were buried to a depth of 2′ 3″ below the floor level, their bases resting on stone slabs. The pillars are 8′ 10″ high above the floor level and, though rectangular in section (1′ 5″×8″), they are octagonal in shape for a short length of 10″ just above the middle. At the top they are provided with U-shaped mortices to hold the ends of the wooden beams which supported the roof, the flanges of the mortices being about 3″ thick and 3″ to 5″ high. All the pillars with the exception of two at the south-east and south-west ends have fallen down and disappeared, but a few were found totally or partially buried in the débris lying on the floor of the hall, which was paved with stone flags.

The cells on the north, east and west sides vary in dimensions from 9′ 6″ to 9′ 9″; and each has a doorway 2 feet wide in the middle of the front wall. The outer walls are 2′ 6″ thick and the front walls 1′ 10″ thick, while the partition walls vary from 10″ to 2′ 6″. All the walls are plastered both inside and out.

In the large square chamber at the north-west end of the monastery were found the head and broken pedestal of a large Buddha figure, but, though every effort was made, the missing body could not be traced. This room probably served as the main entrance of the monastery. The east end cell of the northern series was paved with stone flags and all the others with bricks. The walls had a torus moulding.

Site No. 3.

The remains on the top of the northern mound, also called Nallarallabodu, consist of an apsidal temple and a monastery to its north. Probably there was also a stupa at the highest point of the hillock but it seems to have totally disappeared.

The apsidal temple faces north and measures 18′ 6″ in breadth and 44′ in length, including the apse. The brick-in-mud walls are 4 feet thick; and the floor is paved with stone flags, on which is incised a long Brahmi inscription of 3 lines along the right or west wall. The epigraph gives a description of the several buildings at Nagarjunikonda and contained a date which unfortunately is no longer decipherable owing to the surface having flaked off in several places. The apse contains a small circular stupa (6′ 6″ in diameter) which was originally faced with well chiselled stones. Excavations inside the stupa did not yield any relics.

Structural apsidal temples are very rare in India, and so far as I am aware only one has yet been discovered at Sanchi, two at Taxila and one at Sarnath. The two temples at Nagarjunikonda, therefore, are an important addition; and I have no doubt that at least one more will be found at Nagarjunikonda.

A few yards to the north of the apsidal temple is the monastery, which has the usual plan of four rows of cells arranged on the four sides of an open courtyard within. The building measures about 93 feet square and has six cells on each side, the corner cells being larger than the rest. The outer walls are 2′ 6″ thick, the front walls 1′ 6″ to 2′ 6″ and the partition walls from 10″ to 20″

thick. The rooms were paved with stone flags and similar flags appear to have been used on the roofs in place of tiles, as a number of them were discovered above the pavement.

The doorways of the cells are 2 feet wide and are flanked by moulded pilasters on the outer face of the south, east and west walls; but no such pilasters appear on the north wall, the front of which is quite plain. These pilasters are not joined to the walls and were no doubt later additions.

The verandah pillars rested on a wall, 10 inches thick, which runs continuously in front of the cells at the distance of 4′ 2″ from them. In the middle of the court was a large platform, the exact purpose of which has not yet been determined. A small but well-built room in the north-west corner of the monastery probably served as a granary. A large earthen vase was found in the cell to the west of this room. It is decorated with zig-zag and other patterns and contained nothing except a little earth. Several pieces of shell bangles were recovered from the cells, together with a number of earthen cups, dishes, bowls and little vases. The main entrance of the monastery was probably on the west side. The whole excavation was filled in again.

A portion of the ancient road leading from the fields to the hill-top was also followed up for a length of about 150 feet on the north-west slope of the hillock on which these monuments (the Apsidal temple and the large monastery) are situated. The upper end of the road has however yet to be traced.

Site No. 4 : Pullabodu (The Mound of Pulla).

Some 500 yards to the south-west of the Great Stupa, I partially explored a small but interesting stupa from which Professor Dubreuil of the Pondicherry College had removed two beautiful reliefs in July, 1926. Originally the stupa was decorated with a series of reliefs fixed all round the outer face of its retaining wall. But when I commenced the excavations, only three of the reliefs could be partially seen. Three others were found to be lying face downward, and, as it would have taken much time to expose all of them, I contented myself with taking out one long frieze and two reliefs. This stupa is also constructed on the usual plan followed by the Buddhists in these districts and had the usual five pillars at each of the cardinal points. I did not make any attempt to dig in the centre of the stupa.

The frieze referred to above is 15′ 8″ long and is broken in three pieces, one of which was lying above the ground, the other two being buried under 3 feet of débris. At either end of the frieze is a *bhadraghata*, between which, from right to left, are the scenes of the 'conception of the Bodhisattva', the 'interpretation of the dream' and the 'birth of the Bodhisattva,' each separated from the other by a pair of human figures. Below the scenes is a row of lions' heads and underneath it a long inscription in Brahmi characters.

Some 70 yards south of this stupa is a rising piece of ground about 150 feet square, on which was no doubt situated the monastery attached to this stupa. At the other or southern edge of this platform are lying large fragments

of a colossal Buddha figure of grey marble, and 300 yards further south-west are two Buddha images of the same material lying uncared for in a field. Their heads, arms and feet have disappeared; but the technique of the drapery is typical of the times and the torsoes are still well preserved.

Site No. 5.

Some 300 yards to the north-west of the Great Stupa and about the same distance from the stupa with reliefs, close to the foot of the Nagarjunikonda hill, is a large site containing the remains of a couple of stupas, a small apsidal temple, a large pillared hall with many of the pillars broken or leaning at dangerous angles, and what must have been a large monastery. The larger stupa here had also 5 pillars on each of its four faces; and on turning these over, I found on one of them a Brahmi inscription which is some 14 or 15 years earlier than the inscriptions on the Great Stupa and in the two Apsidal temples mentioned above.*

EXCAVATIONS AT PAGAN.

By Mons. Charles Duroiselle.

At Pagan, digging operations were restricted to eleven sites situated near some of the principal monuments there, and the relic chamber of the Shwesandaw Pagoda was partially cleared of rubbish. The ruined temple known as the Hlaing-she temple at Nabadaw near the village of Wetkyi-in, a ruined stupa near the Mangalazedi pagoda, and a ruined building known as the Paung-gu pagoda near the village of Myin-Pagan were also cleared with a view to recovering antiquarian objects and examining the buried parts of the structures.

The relic chamber of the SHWESANDAW PAGODA had already been dug into, either by the ubiquitous treasure-hunter or perhaps long before by the soldiery of some invading army. During the troublous times which followed the successive invasions of Upper Burma by the Môns (Talaings) it is recorded that many monuments were dug into and everything of value removed. This practice has continued up to the present time and treasure-hunters, whenever an opportunity presents itself, loot the pagodas and temples. The result is that there is now, as far as it can be ascertained, not a single monument at Pagan

* The inscriptions recovered from the stupas and chapels at Nagarjunikonda belong to a dynasty which claimed descent from Ikhaku (Skt. *Ikshvaku*), the well known progenitor of the Solar race of Ayodhya, which must have held sway in the Andhra country round the lower Kistna, during the 2nd and 3rd centuries of the Christian era. They mention the reconstruction of the Main Stupa, which they call Mahachetiya and the construction of apsidal chapels which are described as stone temples (*Sailamandapa*). One of the two long inscriptions found in the Chapels, shows that the monks and nuns from Ceylon selected the spot for erecting the viharas and other buildings all of which lay on Siripavata (Sriparvata). This is rather important; for Nagarjuna the reputed founder of Mahayanism is said to have died in a monastery at Sriparvata. Moreover, Nagarjunikonda means the hill of Nagarjuna.

All the inscriptions mention the donation or dedication of certain monuments by ladies of the Ikhaku family, and not a single *inscription has yet been found which records a donation or dedication by a male* member of this royal house. It is also interesting to find that, while these ladies were devotees of the Buddhist religion, the ruling king was a follower of Brahmanism and performed Vedic sacrifices, Agnihotra, Asvamedha etc.

A fuller account of these inscriptions is given in the Epigraphical summary.

among the many hundreds that are either still standing or in ruins, that has not been so visited and rifled of its contents. Even stone or wooden statues of the Buddha have been thus despoiled, the head, the chest and the navel often being dug into in the hope of finding some supposed jewel hidden therein.[1]

The relic chamber of the Shwesandaw Pagoda occupies the central portion of the building at foundation level, and the passage dug to get into it is revealed by a large opening made in a wall of the second terrace on the west face of the pagoda. The chamber itself and the passage are now the home of countless bats and probably of snakes, and the floor is covered with a layer of guano some feet deep. The passage is narrow, precipitous and very dark except for a few feet near its entrance. Flash-lights had to be used to grope one's way through it in order to reach the relic chamber.

The idea of getting this chamber explored was prompted by the statement of two or three Burmese lads, who had at no small risk visited it some time previously, that it did contain objects which would interest us and which had probably been left behind by treasure-hunters as not worth their attention. The labour was amply rewarded by the discovery of a number of terra-cotta votive tablets—which are important from the philological and historical point of view—and a few bronze and stone images of Buddha. Among the former is a seal with many duplicates, representing the Buddha seated cross-legged with the right hand in the *bhūmisparśa-mudrā* and the other lying in the laps, palm upwards, on a lotus-throne under a foliated arch supported on pillars and surmounted by a *hti*. Some leaves, picturing the Bo-tree, may be seen on each side on the crown of the arch beneath the *hti*; there are also, on each side of the Buddha, two stupas with an elongated ringed finial representing the *chhatrāvalī*, which has become the distinctive finial of Burmese pagodas for well nigh a thousand years (Plate XXXIX, *a*).

Below the two lower stupas and the lotus-seat, is a Nāgarī legend in Sanskrit in four lines, the characters of which belong to the XIth century A.D. The letters are in relief, with the result that some of them have worn away here and there in the course of time, and no single tablet contains the whole legend in a good state of preservation. Fortunately, it was possible to restore the missing letters by a comparison one with the other of the many tablets in our possession, and as a result of this collation, the following connected reading of the legend has been obtained:—

1. *May-āniruddhade—*
2. *vena kṛitam*
3. *Sugatasa(ñ)chchakaṁ, tena Maitreya sambo—*
4. *dho labheyan—nivṛitto padaṁ*[2]

[1] As an example of this looting, the following may be adduced : at Pagan in 1919, a small pagoda of a peculiar type and beautifully preserved was discovered through a portion of the outer pagoda, which encased it, having fallen off. The outer casing was removed, exposing the inside pagoda to view. Three weeks after, two large holes had been made in it in search of treasure. This was most probably done by villagers, and it was impossible to trace the culprits.

[2] This reading differs slightly from that of Mr. Krishna Sastri, the late Government Epigraphist for India, as given at page 39 of the Provincial Annual Report of the Archæological Superintendent, Burma, for the year ending 31st March 1916. It may be mentioned here that the reading given in the text has been arrived at after comparing many duplicates while Mr. Krishna Sastri laboured under the difficulty of having only one tablet at his disposal.

Which may be translated as follows:—

> "By me, king Aniruddha, this mould of Sugata (Buddha) has been made; through this (good deed) may I obtain the path to Nirvāṇa, when Maitreya is (fully) enlightened (that is, when the Bodhisattva Maitreya has become a Buddha)."

On the reverse face of another seal found in the same chamber, is a Pali legend in Burmese characters of the same age as the above, that is the XIth century A.D., which mentions that the mould was made by king Aniruddha with his own hands (*sahatthen'eva*) in order to obtain final salvation.

The name Aniruddha is the classical form of the more popular Anorata, who reigned in Pagan between 1044 and 1077 A.D.; the fact that the tablets referred to above, and others inscribed in Môn (Talaing) and Pyū recovered from the relic chamber of one of the principal monuments of Pagan belong to so early a date (about 1057), has a very important bearing on our present researches. It is known from oral tradition and from somewhat later written records, which, however, are probably based on earlier documents, that, including the Shwesandaw, king Anorata built a number of pagodas at Pagan among which the following are some of the best known:—

(1) Tangyi pagoda, on one of the hills facing Pagan across the river, (2) Lokananda pagoda, (3) Shwezigon pagoda, (4) Poktalin pagoda, (5) Tabetkyut pagoda and (6) Koktheinnayon temple, besides several others in other parts of Burma. None of the six monuments have so far yielded lithic inscriptions or other documents of any kind in support of the tradition which ascribes their erection to king Anorata. The tablets found in the Shwesandaw Pagoda are, therefore, valuable, inasmuch as they confirm the connection of this Pagoda at least with that king.

These tablets are also interesting for other reasons. Thus, their legends, in four languages, give us an insight into the importance which Pagan had by then attained as a political and cultural centre. It is known from several other sources that Pali was studied in Lower Burma (Prome and Thaton) in the early centuries of our era; but this does not seem to have been the case in Pagan; tradition and native chronicles point to the middle of the XIth century as the time of its introduction, along with Southern Buddhism, into this city, or perhaps as the date of its pre-eminence there as the classical language. Sanskrit was known at Pagan some centuries earlier, at least as the language of the Indian court astronomers and astrologers, and perhaps also as the classical language of a Southern Buddhist sect whose canon was written in Sanskrit. From 1057 A.D., which is said to be the date of the Shwesandaw, Sanskrit rapidly loses ground in favour of Pali. The Pali legends found in this pagoda are among the earliest documents in this language which have so far been recovered from Pagan. They may prove useful also from the point of view of architecture. The great building activity, which covered Pagan and its environs with almost countless monuments, began just after the conquest of Lower Burma by king Anorata and lasted up to about the end of the XIIIth century. In the absence of lithic records very few monuments can be confidently

assigned to a period before the conquest just mentioned (1056-57). Now, the miniature temples, noticed on some of the tablets recovered from the Shwesandaw (1057), present types which are not strictly Indian but which must necessarily have been fairly common at Pagan itself during, or perhaps before Anorata's time. Having fallen into shapeless ruins, they cannot now be identified among the existing monuments. This, of course, refers to tablets, not imported from India, but made in Pagan itself and bearing legends in Pali or even in Sanskrit containing the name of king Anorata.[1]

Among other finds, special mention must be made of another terracotta votive tablet. On the obverse it exhibits an image of the Buddha, seated in an arched niche similar to the one described above; but it has five small stupas on each side of the central figure, and these stupas are surmounted, not by the usual high ringed finial but by a single umbrella. Below the Buddha's throne is a two-line inscription containing the usual Buddhist creed in Nāgari characters; it is in mixed Pali and Sanskrit (Plate XXXIX, *b*). But the chief interest of this tablet lies in an inscription of six lines stamped on its reverse. It is in the language which the Burmese call Pyū (Plate XXXIX, *e*), in which very few documents exist. This new epigraph, therefore, is a valuable acquisition. Unfortunately Pyū is practically an unknown language, of which only a very few words can be understood, so that, although the characters of this inscription can be deciphered, its meaning still remains very obscure. In substance, however, it seems to mean that this image of the Buddha was made by one *Śrī Bañaṇa for the obtainment of enlightenment and nirvāṇa during the* dispensation of the future Buddha Maitreya. Who this Śrī Bañaṇa was, cannot be ascertained at present. It is possible that this tablet was not moulded at Pagan, but brought over from Hmawza (Old Prome), the capital of the Pyū people, who had lately been subjugated by the Pagan king.

In the same chamber were found other votive tablets bearing legends in Talaing. Curiously enough, there was not found any tablet bearing a legend in Burmese. It is well known that the Burmese had no alphabet in which to write their own language before the conquest of Lower Burma (1056-57 A.D.), and that the Talaing monks devised one for them, based on their own, very soon after that event. One is tempted to raise the question whether, at the time of the foundation of the Shwesandaw pagoda (1057), such an alphabet was not yet available. The absence of any legend in the Burmese language among those found written in four different languages would seem to show that the Burmese had not yet begun writing in their own idiom. It is, however, a moot point, and the question must remain open pending further discoveries. It may also be that, in the case of such inscriptions as these, preference was given to Pali as a classical language, *or to Talaing with the glamour of several* centuries of literary culture behind it.

Among other antiquities found at the same place, is a small bronze image of a Bodhisattva, in the round, which deserves particular notice. The figure

[1] I hope to be able to put together in a small monograph, all the tablets belonging unmistakably to Anorata's time, so far as they have been discovered, and discuss them in greater detail. As they can be assigned to a definite period (1044-1077), they will serve as a starting point for comparison with other examples.

is seated on a low pedestal. The legs do not cross, but the feet meet at the middle, with the soles turned upwards. The right knee is slightly raised and rests on what appears to be a cushion. The figure possesses all the attributes of a king: crown, ear-rings, necklets, armlets, bracelets, anklets and a waist-band; and a long string passing over the left shoulder and the right arm falls loosely on the seat in front of the figure just before the feet. The right arm is stretched out, the wrist resting on the knee, and the fingers are slightly bent as if holding something. The left arm has broken off just below the shoulder, but the wrist and hand may be seen resting on the knee, palm upwards (Plate XXXIX, *f*). Around the seat is an inscription in Pyū; but it is badly worn away in several places and, save for a few characters, is illegible. On the proper left side, the following can still be read *bȧ:—Metriya ba*: 'Metriya' most probably refers to the image itself. It may be mentioned that the Bodhisattva Maitreya has always been much revered and most popular in Burma, and is often placed in the same category as the four Buddhas who have already appeared in this *kalpa*. The Pyū script on the base of the statuette makes it clear that the latter was made in Burma; but the probability is that it was not made in Pagan, though found there. The general style of the figure which differs from that of the Pagan school, and the form of the characters tend to show that it is older than the middle of the XIth century. Burmese documents record that king Anorata, after his conquest of old Prome, broke into the monuments there in order to remove the relics and enshrine them in his own pagodas at Pagan, and it may confidently be assumed that this small image was among the antiquities thus brought from the old Pyū capital.

In a traditional legend preserved in the chronicles, the Shwesandaw[1] is said to have been erected over some hairs of the Buddha Gotama which were obtained from Pegu (Hanthawaddy). The same distinction is claimed for numerous other pagodas in Burma, and apart from a few local details, the story of the translation of these relics is practically the same. As it has been outlined already in a note on the Shwedagon pagoda at Rangoon, it need not be repeated here.

The monument itself is a conical structure consisting of a bell-shaped dome surmounted by a finial formed of many rings tapering to a point and ending in a stone *āmalaka*. It rests on five receding terraces (Plate XXXVII, *c*), representing, it is said, the abodes of the five kinds of mythical beings: Nāga, Garuḍa, Kumbhanda, Rākshasa and Gandharva, to whom a separate region is assigned below the Tāvatiṁsa heaven, where now stands the legendary Sulamaṇi pagoda; the latter was built over the hair of Prince Siddhartha, which he cut and threw into the air just before donning the ascetic garb. It was probably in commemoration of this event that the Shwesandaw pagoda was built.

The PAUNG-GU PAGODA, now crumbled into a large mound of débris. is ascribed to king Kyanzittha (1084-1112 A.D.). It is situated on the edge

[1] The Shwesandaw is also known as the Mahāpeinnè (Ganesa) pagoda; but the origin of this name is obscure. It is ascribed by some to the existence of Hindu figures, among which was one of Ganesa, on the terraces of the pagoda: but, all these have fallen down and been smashed, or have otherwise disappeared.

of the precipitous bank of the river Irrawaddy, between Pagan and Myin-Pagan, and as a consequence, what is left of it is gradually being carried away by the strong current during the annual river flood. During the cold season of 1915-16 there were recovered from among its débris some stone sculptures bearing unmistakable traces of Indian influence. With a view to recovering more of these or other objects which might still be there, an attempt was made to clear the rubbish which had collected on the river side; as, however, the operations involved danger to the lives of the workmen, the project had to be abandoned. From an examination of what remains of the building and its present precarious condition, there can be but little doubt that its complete disappearance will be a matter of only a very few years; and in view of its dangerous situation on the edge of the sandy cliff, it is for consideration whether it would not be prudent to tackle the mound again and try and recover whatever antiquarian objects it may still contain. Incidentally, it may be mentioned that when the monument was examined in November last, it was found that the central relic chamber had all but been washed away, the only parts that remained being portions of its walls on the east and north sides. It was also observed that the mound was honey-combed with trenches, probably the work of treasure-hunters, dating some years back.

THAYAMBHŪ (SAYAMBHŪ) MOUND, PAGAN.

Another mound that was explored during the past season is situated a few hundred yards to the west of the Shwesandaw pagoda and in close proximity to the THAYAMBHŪ (Sayambhū) TEMPLE. Including the monument buried in the mound itself, there were originally three buildings standing in a row here, quite close one to the other and on a common platform. They lie north to south, the one at the southern end being the Thayambhū Temple and the one in the middle a solid stupa of conical form. The mound at the north was about sixty feet in diameter at the base, and about seven feet in height above the surrounding level. A shaft, eight feet square, was sunk in the centre, and at a depth of 2½ feet from the top, a pavement of bricks and stone flags was brought to light, there being one stone flag to every three or four bricks. The bricks measure 13″×7½″×2″ and the flags 12″×10″×2″. On widening the shaft, remains of brick walls were subsequently uncovered on the four sides, and a paved area measuring 17′×12′, enclosed by these walls, was exhumed, the longer side running north-south, and each wall being 2½ feet in thickness. The pavement itself was in three layers and laid on a foundation of filled earth slightly bluish in colour. Judging by the walls surrounding it, this area probably formed the inner chamber of a temple, in which was enshrined an image of Buddha; but the destruction of the temple, is so complete that there were found no traces of an image, nor even of any votive tablet. Deeper excavation, however, disclosed, at a depth of seven feet, some charred bones with a rusty nail among them, and some fragments of an earthenware vessel. The deposit of an iron nail or some other iron object along with urns containing human bones, was an old Pyū burial custom. It may thus be presumed that this custom existed also among the

Burmese of that time; unless, indeed, this building was erected by the Pyūs, who were rather numerous in Pagan till the end of the XIIIth century, after which they seem to have totally disappeared and merged into the Burmese population together with their language. But the view that this custom was spread far and wide over Burma is probably nearer the truth, as such finds have also been made at other places at Pagan.

As digging proceeded to the east of the enclosed area, there appeared traces of other walls which were, no doubt, the remains of the portico in front; and, close to the wall separating the portico from the chamber, a stone pavement measuring six feet square came to light, underneath which was a layer of bluish earth laid over some charred bones and a small piece of iron. No other objects of any interest were found either here, or in the two mounds excavated near the MIN-O-CHANTHA PAGODA mentioned below.

These mounds are situated close to the MIN-O-CHANTHA pagoda, a stone's throw to the north of the Ananda temple. With the exception of a small headless image of Buddha, nothing of real interest was found in them; but as in the case of Thayambhū, ashes, charred bones, fragment of earthenware urns and pieces of iron were unearthed. These objects were found, some below the foundations of walls and others below pavements. No doubt these mounds were originally tombs of persons of a high standing, for it was only such that were cremated and their remains placed in urns and buried; the common people were interred. These tombs seem to have been built much in the manner of small temples with a room wherein a Buddha image was often enshrined; and probably some other objects of worship were placed there too; but as these objects were above ground, they were either removed or destroyed in the ruin of the monuments. There were no signs of the tombs themselves having been tampered with.

In paragraph 27 of my last *Provincial Annual Report* mention was made of the discovery of some terracotta votive tablets in a field belonging to one Maung Chit Sa of TAUNGBĪ VILLAGE, Pagan, on the site where two bronze images of the Buddha Dīpaṅkara had been found. In November last further excavations were made on the same spot after removing the crops that were growing on it. With the hope of finding some more relic chambers like the one referred to in the Report just mentioned, trial pits were sunk, and traces of two walls were discovered. Of these one was running north-south close to the west wall of the relic chamber previously discovered, and the other east-west to the north of the same chamber, and at a distance of about 14 feet from it, measuring from the centre. On following these walls, it was eventually found that they met on the north, forming an angle. That gave an idea of the plan of the building, and the area within which the digging operations could be restricted. Within this area several trial pits were sunk, each four feet square, and at the same time the digging along the walls was continued. It was hoped that there would be some more relic chambers, as such monuments sometimes contain more than one, but no traces of any were discovered. Near the middle of the eastern wall, however, there was brought to light a hoard of

terracotta votive tablets nearly a thousand in number. The images on the obverse face display but little variety, most of them being practically the same. But what renders these tablets specially valuable is the wealth of archaic words in Burmese contained in the short dedicatory inscriptions written on the reverse face of a great many of them. The figures on the obverse faces of these tablets depict the Buddha in the ordinary "earth-touching" attitude, seated on a double lotus throne, in an arched niche surmounted by a *śikhara;* on the sides are elongated stupas and boughs of banyan trees. Below the throne is a line of inscription in Burmese characters of the period, but it is very indistinct on every specimen and cannot be read. An interesting feature of a large number of these tablets is that they contain, in archaic Burmese, the names—most of which would not be intelligible to Burmans of to-day—of various fruits, flowers and herbs; as for instance, the mango, plantain, citron flower, soap acacia creeper, asafoetida, etc., etc., and others which have not yet been identified. These names probably refer to the offerings of these fruits, plants, etc., made by the devotees at the foundation-laying ceremony of the building. Such offerings are still made at the present time in some parts of Burma. This, however, is the first time that we have come across tablets commemorating such gifts, at the foundation of an ancient monument. Other tablets contain inscriptions in old Burmese consisting of six, seven, or eight short lines, and some of one line only, in which are found words so archaic that the meaning of some has not yet been satisfactorily settled. All these inscriptions, studied in detail, will form the subject of a paper in a future number of the *Epigraphia Birmanica.*

The tablets do not, unfortunately, bear any date, but their age may be inferred from the form of the letters, the archaic character of the language and from a few names of persons therein mentioned. The epithet and style of the king in these inscriptions do not help us much. For instance, the epithet "Dhammarājā" is found in several of them; but this simply means 'the righteous king,' and is merely a title assumed by all the kings of Burma down to even king Thibaw (1877-85). Similarly we find the title 'Srī Tribhuvanāditya-varadhammarājā.' In the light of what I said regarding the titles of the kings of Burma in paragraph 44 of my *Annual Report* for the year 1920, I am of opinion that this epithet may have been borne by at least three kings, namely: (1) Sawlu (1077-84), (2) Kyanzittha (1084-1112) and (3) Alaungsithu (1112-87). There are two names, however, of private individuals which may help to determine more closely the date of this monument and tablets found in it. One is Muggaliputta and the other Sumedha. Both were monks, and their names, among some others, are mentioned in a dated inscription, that of the Myazedi pillar, 1112, which was the last regnal year of king Kyanzittha. It is probable, therefore, that the tablets were made during the reign of Kyanzittha (1084-1112) or during the opening years of the reign of his grandson and successor, Alaungsithu (1112-87).

In paragraph 29 of my *Provincial Annual Report* for the year 1922, I have referred to the discovery of some votive tablets containing legends in several

languages at a SMALL RUINED PAGODA NEAR THE MANGALAZEDI on the road to Myinkaba, Pagan. During the year under report, I had the site around this pagoda re-examined with a view to recovering some more tablets from among the débris. A large number were so recovered, but they proved to be merely duplicates of those that had been found on the previous occasion. Among the new finds there is one containing 28 Buddhas seated in the usual attitude, each on a lotus and arranged in five tiers around another Buddha similarly seated, but within a temple. The central figure is larger than the others, and on each side of his throne is the small figure of a Bodhisattva seated in the *lalitāsana*. Beneath the lowest tier of Buddhas is a line of writing in Nāgarī characters. In many places the letters have disappeared, but they were well preserved on a fragment of another tablet of the same kind recovered from the same place. It is in Sanskrit and reads as follows:

Om ! kritir-iyaṁ rājñaḥ Śrī-Aniruddhadevasya 'Om! This is the work of the illustrious king Aniruddhadeva'. As the name testifies, it is a tablet of Anorata (1044-77). Tablets of another type, and belonging probably to Anorata's queen, were found at the same site. Each contains on the obverse face the eight principal scenes in the life of the Buddha Gotama, and two lines of writing in Nāgarī characters. The inscription, which is partly in Pali and partly in Sanskrit, contains the usual Buddhist creed '*Ye dhammā hetupabhavā* etc.' followed by the words '*dānapati Śrī-Mahisyadevi*', which would mean 'the chief queen is the giver'. If my reading is correct, then from the style of the image, the characters of the inscription and the testimony of other tablets found at the same place and bearing the name of Aniruddhadeva, this lady must have been the queen of the great monarch.

While the above works were proceeding, the opportunity was taken to clear away the débris that had collected around a ruined monument known as the HLAING-SHE TEMPLE, at NABÈDAW, near the village of Wetkyi-in. The main building was square, with a porch facing east, while a vaulted corridor ran round the cella in the centre which supported the superstructure. Both inside and outside the walls of the cella were niches in which were once enshrined statues of the Buddha; as, however, the roofs over the circumambulating corridors had fallen in, the niches on the outside were buried in débris, except a few at the corners, near the entrance. This débris was removed, but all the niches were found to be empty except two and the probability is that the people, foreseeing the danger to which these statues were exposed, removed and placed them in other temples near by. The two niches which were not empty, contained each a stone sculpture of a seated Buddha with hands and feet broken off, and fragments of what had probably been a Bodhisattva in brick and plaster. From their technique, these images may be ascribed to the XIth or early XIIth century. The temple itself was once ornamented with fine mouldings and beautiful plaster carvings. Plate XXXVIII, *b* shows what remains of a part of the wall of the basement on the west face. The window, screened with perforated stone slabs and adorned with pilasters and foliated pediments, is noteworthy.

Excavation was undertaken at four other spots besides those mentioned above, the sites selected being low mounds of bricks. One of them was situated near the Hlaingshe temple described in the last paragraph; another in a field belonging to one U Bya, close to the Mangalazedi on the north; the third in the compound of the Ngwezedi monastery at Myinpagan, and the fourth near the Koktheinnayon (Kusināra) near Myinpagan. Nothing of special interest was found in any of them, though passing mention may be made of some crucibles stained with green patches, owing probably to residues of copper or bronze, which were found in the compound of the Ngwezedi monastery. It is said that there were found, a few years ago, in the relic chamber of a small stupa immediately to the east of this mound five Buddha images in bronze, four of which have now been placed in the local Museum. From their style, they may be assigned to the XIth or early XIIth century. It is not impossible that the crucibles mentioned above were used for melting the metal to cast the images just mentioned.

Among other discoveries made at Pagan during the year, special mention may be made of the following:—

(1) A bronze image of the Buddha found in the possession of a Buddhist monk at Myinpagan, with whose permission a photograph of it was taken and is reproduced in Plate XXXIX, *c*. The image represents the Buddha seated cross-legged on a lotus with his right hand in the *bhūmisparśa-mudrā* and left hand in the lap. The cast of countenance is decidedly Indian. It dates probably from the latter half of the XIth century and perhaps somewhat earlier. It is said to have been found some years ago in the relic chamber of a small ruined stupa situated within the monastery compound of the monk in whose possession it was, together with other images which have been placed in the Pagan Museum. Including the lotus on which it stands, the figure measures 12¾″ in height.

(2) A terracotta votive tablet bearing fifty small effigies of seated Buddhas and four small stupas. The Buddhas are placed in niches and arranged in six tiers; above the middle figure of the topmost tier are boughs of banyan trees on both sides of an umbrella (Plate XXXIX, *d*). Beneath the lowermost tier is a one-line inscription in Nāgarī and Burmese characters, giving the name of the donor. That in Nāgarī, which occupies the first half of the line, reads:

Śrīya Tribhuvanādityadevasya

while the latter half repeats the same legend with slight variations in Burmese characters:

Śrī Tribhuvanādityadevarāj (*assa*).

Śrī Tribhuvanādityadeva is, as is known from the Myazedi pillar inscriptions and other documents, the title of king Kyanzittha (1084-1112).

(3) The next, illustrated in Plate XXXIX, *g* and *h*, is a piece of fine workmanship in bronze; it is a lotus on an artistically designed stand. It was found in 1925 by the Buddhist monks of Taywindaung while digging post holes for a rest-house, but could not be published earlier for want of photographs. As may be noticed from *fig. h*, the lotus can be made to open and close by means of a spring and contains in the centre a seated image of Buddha. On the inner sides of the petals, which are eight in number, are represented the principal scenes in the life of the Master, the nativity, the preaching of the first discourse at Isipatana, the offering of honey by a monkey, the Parinirvāṇa, etc. When closed, the lotus is crowned by a small stupa (*fig. g*). The lotus is mounted on a stand ornamented with floral designs. The two stalks which branch off from the main stem of the stand are supported on the hands of two nāginī; a devotee is seen seated in the attitude of prayer on a lotus, at the upper end of each stalk, in the scrolls of which are figures of lions and elephants.

This piece of exquisite workmanship calls to mind the bronze figure shown as a Vajra-Tārā shrine in figure 101 of Ananda K. Coomaraswamy's '*The arts and crafts of India and Ceylon*', and in Fig. 5 in Foucher's '*L'Iconographie Bouddhique de l'Inde*', part II. The latter is in the Indian Museum, and, according to Mr. Ramaprasad Chanda it was found at Pathargata in the Bhagalpur District of Bihar. Further, Mr. Chanda thinks that on stylistic grounds it cannot be of a later date than the XIIth Century A.D.

EXCAVATIONS AT HMAWZA.

By Mons. Charles Duroiselle.

The most numerous and important finds during the year under report were those made at a site known as the Khin-bha-gôn near the Kalagangôn village in the neighbourhood of Hmawza (Old Prome). They consist of sculptures and ornamental pieces in burnt clay and sandstone, many small stupas and Buddha images in gold and silver, inscriptions on gold and silver plates, coins, crystal, jade and glass beads, etc. They were found in the brick chamber of an old mound, and the circumstances which led to their discovery may briefly be narrated.

During my annual visits to Hmawza, people have been wont to bring me information about objects of antiquity which they have heard of, or actually found by chance, in the course of the year. They do this in response to my appeal to them for their help in my work. Without such assistance much time would often be fruitlessly lost in searching large tracts of jungle; for it is to be expected that the country-side, within and round about the extensive sites of old cities was once replete with antiquarian objects, some of which

may be still hidden in the thick jungle in out-of-the-way places or buried under ground in the ruins of old structures. On the present occasion, the durwan in charge of the ancient monuments there, gave me information to the effect that a villager of Kalagangôn, while digging for bricks in his house compound, had found a fragment of a stone sculpture. I had it brought to me, and on examination found it to be a hand, carved in sandstone, and holding a conch, which had probably belonged to an image of Vishnu.

It may be mentioned here that during the year 1920, there were recovered near the same village, on information supplied by another villager, two Vishnuite sculptures also of sandstone, one representing Vishnu on the serpent Ananta and the other the same God riding on Garuḍa.[1] The Burmese name of the village Kalagangôn, is in itself significant, for it means: 'the village near the mound by the Indian tank'. This, coupled with the finding of two Vishnuite images near by, pointed to the fact of the site having been, in the remote past, an Indian settlement. For excavation I selected five mounds; one in the village itself where the Vishnu hand had been found, and the other four outside. The mound in the village and one of the other four were first taken in hand. The latter is situated close to the site where the two Vishnu sculptures just referred to had been found; but from the nature of the finds it yielded this mound proved to be, not Hindu but Buddhist. It is known as Khin-bha-gôn, from the name (Khinbha) of the cultivator in whose land it is situated. As is often the case, the only indication of its being an ancient ruin was the presence of a few bricks of large size and fragments of stone which were scattered on the surface. There was no tradition whatever attaching to it, and the local people were in complete ignorance of its importance. It must not, however, be inferred from this that the site had been passed over by treasure-hunters, for there were unmistakable signs that it had already been dug into, though fortunately for us only superficially.

It was a low, roughly circular, mound covered with trees and brushwood, and measuring 20 feet in diameter across the top and 57 feet at the base. A low depression, about 3½′ in depth and 10′ in diameter marked its centre. Operations were begun by sinking a shaft at this point and digging trenches crosswise, after the brushwood and the trees had been cleared away. Within the first few days, I brought to light the fragment of a large terracotta plaque with the part of a miniature column moulded on it in bold relief, and a finely modelled female head, in the same material. The form of column on the plaque is not usually met with in Burma; the base being vase-shaped with fluted sides and evidently of some antiquity. These two objects were found in the trench on the east side, at a depth of about four feet from the surface. The same trench also yielded a small silver coin about the size of a four-anna bit, with two holes punched through the metal close to one side of the rim. Such coins, generally known as symbolical coins, have been found at other ancient sites in Burma and are admittedly old. This gave us another clue to

[1] Para. 39 of the *Provincial Annual Report* of the Superintendent, Archæological Survey, Burma, for the year ending 31st March, 1920.

the comparative antiquity and importance of the site. It bears, on one face, nine dots in the centre flanked by two figures which look like cobras; above these are the sun and the moon separated one from the other by a forked line, which perhaps represents the dome of the sky; beneath, are, first a thick line and then three wavy ones; the former perhaps representing the earth and the wavy lines the ocean surrounding it. On the margin close to the cobra on each side, are a trident and a very indistinct symbol, which may have been a conch or perhaps the head of a *makara* resting on two curved lines with a dot below. The other face has what looks like an altar[1] formed of two sets of duplicated triangles with their apices meeting at a point in the centre marked by a small circle and a dot, and two cobra-like figures projecting one on each side of the circle. The altar is surmounted by four dots, and the whole is enclosed by a thick line within a dotted border. (Plate XLII, *e*).

As the digging continued and the trenches were widened, many more terra-cotta plaques were recovered, a few in a good state of preservation, but most of them in fragments. Most noticeable among them are:—fragments representing busts of *ṛishis* with the usual plaited hair; a fragment containing the head of a man with a head-dress of a thick round fillet ornamented with dots, and in shape not very dissimilar to the lower portion of head-gear worn sometimes by Persians (Plate, XL, *a*); a plaque with a lotus plant in relief (Plate XL, *b*); another plaque with figures probably depicting a scene in one of the anterior births of the Buddha (Plate XL, *d*). This latter measures 2′ 6½″ by 1′ 9¾″ by 5½″ in thickness. The stucco which originally covered the whole plaque has almost completely flaked off, thus obliterating or obscuring some of the details. The principal personage is a prince wearing crown and armlets; he is seated, European fashion, on a throne supported by a lion; both hands are in his lap in the *dhyāna-mudrā*, and from the expression of his face he seems to be sunk in deep meditation. By his sides are two figures, standing and turned towards him. The one on his proper left is holding in both hands an uplifted club, as in the act of striking; the other, on the right, appears to be in the act of either pinching or scratching the upper part of the prince's arms. Both these figures are dressed as commoners, in a closefitting jacket and a short *dhoti* scarcely reaching the knees, and the hair is gathered up in a big knot on the crown of the head. This scene at once calls to mind the *Mūgha-pakkha jātaka*.[2] The imperturbable solidity of the prince's attitude in the face of such threatening gestures lends support to this identification. An obvious objection is that the scene depicted corresponds to none of the sixteen trials to which prince Temiya was subjected in order to rouse him into life and activity from his extraordinary immobility; it may, however, refer to one of the many smaller trials mentioned in the text but not described in the story.[3] The plaque is not labelled and if the interpretation is not correct, the scene must remain unidentified for the present.

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[1] M. Duroiselle's interpretation is not to me convincing. [Ed.]

[2] Fausboll's *The Jātaka*, Vol. VI. p. 1 *ff*.

[3] Fausboll. *Op. cit.* page 6.

Most of these objects were found on the south-east side of the mound. There were also found, in the vicinity of the same spot, many fragments in stone, some with traces of sculptures on them, but none with any writing. Among them was a fragment with a portion of a finely carved lotus. Three other fragments were also exhumed which, when pieced together, gave a complete slab with the representation of a miniature stupa carved in low relief on one face; the other face was plain. The slab measures 4′ 10″ by 4′ 6½″ by 4½″ in thickness. The stupa consists of a dome somewhat elliptical in shape surmounted by a *hti* shaded by two umbrellas. The latter are placed one above the other on a *yashṭi* or staff, and a streamer tied to the upper end of the staff falls on either side. The dome rests on a low drum containing five niches with a segmental arch over each; and each of the niches enshrines a Buddha seated in the *dhyāna-mudrā*. A low terrace ornamented with mouldings forms the base on which the stupa is raised. Flanking the stupa are two Mahābrahmā, each holding an umbrella with a long staff and a streamer attached to it just below the disc. Above, close to the upper margin of the slab, are two objects, one circular, enclosed within two circles, the other a crescent. They probably stand for the sun and the moon. The shape adopted for this stupa was common enough in India, but this is its first appearance in Burma. It augured well, therefore, for further discoveries of interest. At the same time, it was disconcerting to see, promiscuously scattered about, many broken fragments of fine sculptures evidencing ruthless destruction by vandals. Fortunately, the destruction had not been thorough, for there was still left the relic chamber of the stupa with its contents practically intact, and these it was my good fortune to recover. The relic chamber (Plate XXXVII, *d*) was found closed by a slab of stone lying face downward and closely resembling the one just described, but in a better state of preservation (Plate XXXVIII, *d*). It thus afforded a more perfect illustration of the type of stupa which may then have been in vogue at Hmawza. As stated above, there are none in this style now to be found. This type is characterized by a cylindrical dome with a rounded top; the *yashṭi* above the *hti* supports five umbrellas, and, instead of the crescent on one side of these umbrellas, there is a circular object enclosed within a double circle. There are three monuments at Hmawza the shapes of whose domes closely resemble that of this miniature stupa. They are the Bawbawgyi, the Payagyi and the Payama which, on stylistic grounds, have been ascribed to the Vth—VIIth or perhaps VIIIth century A.D. The Bawbawgyi has a dome cylindrical in shape and closely akin to that on the latter slab; while the other two have conical domes. The latest example known to exist in Burma is the Kaung-hmu-daw pagoda near Sagaing in Upper Burma, which was built in 1636 A.D. on the model, according to some authorities, of the stupas at Hmawza. None of these monuments has a *hti* surmounted by a series of umbrellas; instead, the dome is crowned by an iron umbrella of modern work and design. The prototypes of these forms must be sought for in South India, from which country Hmawza was colonized in very early times. As there will be occasion to show lower down, these two stone-slabs may be ascribed to the VIIth or beginning of the VIIIth century A.D.

On removing the stone-slab, there was exposed to view a relic-chamber lined with bricks, its contents buried in thick mud, the result no doubt of infiltration from the débris which had covered it. Right in the centre, on the floor of the chamber, stood a stupa cylindrical in shape (Plate XXXVIII, *c* with a flat cover supporting the trunk of a banyan, representing the Bo-tree, whose branches and leaves had broken off and lay scattered about the relic-chamber. The stupa (with the tree on it) measures about 26″ in height with a diameter of 13″ at the top and 16″ at the base. Around the drum of the stupa are four seated Buddhas, each with an attendant monk standing on one side. The stupa itself is hollow, with no bottom, and is of silver plate with the images repoussé in high relief. The top, forming the cover, is removable and has, around the rim, a line of inscription in Pyū and Pali, in an early Telugu-Canarese script of South India, very closely allied to that of the Kadambas of Vanavāsi and that of the Pallavas of Kāñchipura (Conjevaram). The character is practically the same as the script of the Maunggun plates, also found near Hmawza, and of the inscription on a stone found at the Bawbawgyi pagoda at Hmawza.[1] On paleographical grounds, the alphabet of the inscriptions on this silver stupa may be assigned to the VIth or beginning of the VIIth century. Each of the passages in Pyū gives the name of the Buddha immediately below it; and after each of these names comes a short extract consisting of a few words, from the Pali scriptures. The names given are those of the four Buddhas who have already appeared in the present *kalpa* but they do not follow the usual order in which they appeared; thus, placing Gotama last (since he was the last to appear), the names in the inscription run as follows:—

(1) Koṇagamana, (2) Kakusandha, (3) Kassapa and (4) Gotama.

Each figure of the four attendants had also a name attached to it, inscribed immediately below it. They are also given in the Pyū forms, as follows:—

(1) Kasaba, (2) Maulana, (3) Sari and (4)......da.

These names, modified or shortened according to the genius of the Pyū language (a phenomenon common to practically all Tibeto-Chinese languages), may be restored thus: (1) Kassapa, (2) Moggalāna (Maudgalyāyana), (3) Sāri, putra; and (most probably), (4) Ānanda. It will at once be remarked that these are the names of four disciples of the Buddha Gotama and that, therefore, none of them is connected with the three other Buddhas represented on the stupa; in the list of the foremost disciples of these Buddhas given in the *Nidānakathā* and the *Buddhavaṁsa*, not a name appears resembling in the least any one of the four given above.[2]

Around the lower rim of the same stupa, is another line of inscription, also in Pyū, of which some letters are missing owing to the rim, which is very thin and brittle, having broken off. As already mentioned, Pyū is a dead

[1] Cf. L. Finot. "Un nouveau document sur le bouddhisme birman," *Journal Asiatique*, pp. 120 *ff*. Bühler, *Indian Palæography* (English edition), p. 65.

[2] Fausboll, *Jātaka*, Vol. I, page 42; *Buddha-vamsa*, Pali Text Society's edition.

language and it has been so for about seven centuries. The inscriptions in this language recovered up to the present, most of them quite short, are very few and the words, the meaning of which it has been possible to ascertain with a certain degree of certainty, do not altogether exceed 150.[1] Thus, though the new inscription can be deciphered, its meaning cannot yet be made out satisfactorily and its interpretation will require much study and research. For the moment, it may be noticed that there are two names in it, which may prove important. They are doubtless the names or rather titles of the donors, and most probably kingly donors. One is: Śrī-Prabhuvarma; and the other, separated from it by a few words, Śrī-Prabhudevī. They seem to be the titles of the king then reigning and of his queen. The second member of the first name, 'Varma' is especially interesting. Royal titles ending in 'Varman' were *not uncommon in Southern India, and its appearance in our inscription* is significant. In their rather fanciful and legendary list of the kings of Prome, the native chronicles completely ignore such a dynasty with names in "Varman"[2].

In addition to the silver stupa mentioned above, many other objects were found in the same chamber, ranged round about the stupa. They are as follows:—

Stupas, etc.

(1) Branches and banyan leaves made of silver and probably fallen from the trunk of the Bo-tree on the cover of the large silver stupa.

(2) A silver stupa, hollow, without top or bottom, in the form of a cube, $5\frac{1}{2}''$ in height. On each face is a seated Buddha, in beautifully executed repoussé work (Plate XL, *f*).

(3) Round hollow stupas with double dome surmounted by a series of umbrellas. These are four in number, but only two are in a fair state of preservation (Plate XL, *c*). Average height, $9\frac{1}{2}''$; metal, silver.

These are, up to now, the only examples of such stupas found in Burma.

(4) *Chhatrāvalī* or umbrellas fixed on a common pole belonging to the damaged votive stupas referred to in No. 3.

(5) A round stupa of the same form as those in No. 3, but made of gold. The umbrellas are missing. Height: $4\frac{1}{4}''$.

(6) A round stupa, in silver, with double dome and closely resembling those in Nos. 3 and 5. The umbrellas are missing. Height: $1\frac{5}{8}''$.

[1] Cf. C. O. Blagden in *Epigraphia Birmanica*, Vol. I, Part I: The Pyū face of the Myazedi inscription.

[2] From the tentative reading of the Pyū inscriptions on the funeral urns found near the Payagyi pagoda, Hmawza, there also appears to have flourished, somewhat later, a dynasty with names ending in 'Vikrama'. Their date, so far as tentatively ascertained, ranges from 673 to 718 A.D. See C. O. Blagden: The Pyū inscriptions, in *Epigraphia Indica*, Vol. XII, pages 127 *ff*. This line of kings also is unknown to native historians.

(7) Two silver conical stupas rather elongated and tapering to a point, so that there could originally have been no umbrellas. These stupas closely resemble the elongated and tapering bodies of modern pagodas in Burma as, for instance, the Shwedagon at Rangoon. Height: 2½″ and 3″.

IMAGES OF BUDDHAS, BODHISATTVAS, ETC.

(8) A Buddha seated on a throne in the *dhyāna-mudrā* (Plate XLI, *a*). It is in the round; a detachable halo quite plain but for a single line running round the rim, is fixed at the back of the head. Below the halo and similarly attached is a back plate forming a back-ground, with the usual *makara* supported on the heads of two standing lions. It is noteworthy that in this image the *ushnīsha* or protuberance on the top of the Buddha's head is scarcely noticeable. The same is the case with many of the other Buddha images found in this relic-chamber. The Buddha, the halo and the back plate are of gold: the throne of silver. Height: Buddha, 5¾″: throne, 3½″.

(9) Same as No. 8 but smaller in size, with halo and back plate; the throne is missing; height: 3⅝″.

(10) Buddhas seated in the *dhyāna-mudrā*; they are all in the round and seated on low pedestals. There are altogether 50 varying in size from 1½″ to 5¼″ in height (See Plate XLI, *d*, for a representative selection). Metal: gold, silver and lead.

(11) A Buddha seated cross-legged, with the right hand raised in the *vitarka-mudrā* and the left in his lap (Plate XLI, *e*). Height: 3¾″. Metal: silver.

(12) A Buddha seated cross-legged on a circular throne. The right hand is missing, the left rests in the lap. It has sharp Indian features, and the protuberance on the head is more apparent than in most of the other images. There is a back to the throne. The Buddha is in gold and the throne in silver. Total height, 2½″.

(13) Head of Buddha in gold. Height: 1″.

(14) A headless figure, probably of Buddha, seated cross-legged; both hands are raised, the right one in the *abhaya-mudrā,* the left holding the edge of the robe. The thick folds of the robe, a rather uncommon feature, may be noticed. Height: 2¼″. Metal: bronze.

(15) A Buddha seated European fashion, with the feet resting on a lotus; both arms are missing and the head is partly smashed. The metal or alloy of which it is made is not easy to ascertain; the figure is covered with a layer of bright green glaze, and is very brittle, Height: 4″.

(16) Plates of gold and silver bearing effigies of the Buddha in low relief; they number 24 and are of various shapes, circular, semi-elliptical and oval; the largest of them, circular in shape, is $4\frac{1}{2}''$ in diameter.

(17) The *Parinirvāṇa* scene in relief on a silver plate partially gilt; in three fragments. Total height: $5\frac{1}{4}''$; breadth $2\frac{1}{2}''$.

(18) Fragments in green glass of a figure of Buddha. Only the head and one or two fragments belonging to a part of the breast could be pieced together. Height of head: 2″. This is the oldest example of a statue made of glass so far found in this province.

(19) Four small images of silver gilt. Two are Buddhas seated European fashion, with the two hands brought before the breast in an attitude of argument. One of the other two figures appears to be a monk, seated sideways, with the right leg folded in front of him. The left leg is brought up in a somewhat distorted position, so that the knee is level with the hip, the foot resting on the right foot. The left arm hangs down along the side, the hand resting on the right calf; the right arm is missing. The fourth figure is in the garb of a monk, seated in the *lalitakshepa*, but with the left leg hanging down. The left forearm rests on the knee, and the hand holds a vase; the right arm is missing. The height varies from $1\frac{1}{2}''$ to 2″.

(20) A small figure of a Bodhisattva holding in his right hand an object difficult to make out, but which may be a lotus. Metal; silver; height: $1\frac{7}{8}''$.

(21) The figure of a flying *deva* embossed on a silver plate partly gilded; $2\frac{1}{4}''$ in diameter.

(22) One small figure of a devotee. Metal: gold; height: $2\frac{5}{8}''$.

(23) A woman standing; the right arm is missing. Her dress marks her out as a lady of distinction. Metal: silver; height: $2\frac{1}{8}''$.

(24) A small figure with a horse's head on a human body (*assamukhī*) holding a sword under his right arm. Height: $2\frac{1}{2}''$.

(25) Dvārapālas with thick-set bodies, wearing close-fitting trousers; embossed on silver plates. Each is holding a heavy mace. They are five in number, the largest measuring $7\frac{1}{2}''$ in height; but only three of them are in a good state of preservation (Plate XLI, *b* & *c*). The different styles in which the hair is made up are remarkable. The perforated ear-lobes are very distended, touching the shoulders, and contain ornaments.

Bowls, caskets, etc.

(26) A plain silver bowl with cover; height: $6\frac{1}{2}''$; diameter: $11\frac{1}{2}''$.

(27) A plain silver bowl; cover missing; height: 3″; diameter: $7\frac{1}{4}''$.

(28) A plain silver bowl; cover missing; height: $2\frac{3}{4}''$; diameter: $4\frac{1}{2}''$.

(29) A plain silver bowl; cover missing; height: $2\frac{5}{8}''$; diameter: $4\frac{3}{4}'$.

(30) A silver betel-box-shaped casket; height: 3¾″; diameter: 4″. (Plate XLII, *i*.)

(31) A small, plain silver casket. Height: ½″; diameter: 1⅛″.

(32) A small silver casket with cover, on which is carved a stylized lotus containing a ball of rock-crystal highly polished and of great clarity. Height: 1½″; diameter: 2″.

(33) A gold casket, of which the body and cover are joined together by a short gold chain on one side. Height: 2¼″; diameter: 3½″.

(34) A gold casket with a twin Brahmani duck sitting on the cover Inside it was found another small silver casket filled with twelve gold rings set with stones. Height of outer casket: 2½″; diameter: 3¼″. (Plate XLII, *d*).

(35) Five small gold trays, each measuring 2¾″ in diameter.

It may be observed that the bowls and caskets referred to above contained, when they were discovered, many small images of Buddha some of which have been mentioned above, and coins, beads and other miscellaneous objects to be mentioned below. Some of the other caskets contained small gold and silver plates engraved with inscriptions in Pyū, which probably record the names of donors.

Coins.

(36) Symbolical coins of various sizes, the largest being about the size of a rupee, and the smallest about one fourth of an inch in diameter. They are all of silver and number 45 (see Plate XLII, *e* and *f*, for representative specimens).

Gold and Silver plates with inscriptions.

(37) A manuscript in every way similar to the palm-leaf manuscript so common in India and Burma but with leaves of gold, twenty in number, with writing incised on one side. These leaves, within their two gold covers, were found bound together by a thick gold wire with its ends fastened to the covers by sealing wax and small glass beads (Plate XLII, *g*). There are two holes in each leaf and cover, through which the gold wire was passed, to keep the whole in position and proper order. It was necessary to cut this wire in order to free the leaves. Each leaf measures 6½″ in length and about 1¼″ in breadth, and contains three lines of writing.[1] The characters are similar to those of the inscriptions incised round the lower and upper rims of the large silver stupa described above, and of the same date (*vide* page 175). The manuscript is made up of short extracts in Pali from the *Abhidhamma* and *Vinaya piṭakas*. Plate XLII, *h* shows the first two leaves. It is well known that, among the Buddhists, there are

[1] The last leaf, however, contains only two, and the last but one, four lines. Each leaf of the manuscript with the exception of these last two leaves is numbered on the back.

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four classes of objects of worship, *viz.*, (1) the Buddha's corporeal relics, (2) the objects he personally used: robes, staffs, bowls, etc., (3) trees, such as the Bo-tree at Bodh Gaya, and other objects or places which have been made holy by the presence of the Master, and (4) the Law or Dhamma Preached by the Buddha as preserved in the *Tripiṭakas*. This is the reason why, in some cases and in the absence of other relics, manuscripts are enshrined in pagodas. This custom is responsible for the discovery of our manuscript among the other objects, as embodying the Dhamma. The text will be published in the *Epigraphia Birmanica*. From the paleographical point of view, this manuscript ranks amongst the most instructive finds yet made in Burma.

(38) Small gold and silver plates with Pyū inscriptions punched on them in relief. There are 16 of them, but many are only fragments.

(39) A small seal from a signet ring, with three deeply incised letters. The nature of the stone has not yet been determined.

BEADS AND OTHER ORNAMENTS.

(40) Beads, mostly made of thin plates of gold and silver, applied on to a ball of greyish earth which now easily crumbles to dust.

(41) Beads of various shapes, colours and sizes, made of different forms of quartz, carnelian, amethyst, chalcedony, rock-crystal, jade, etc., and of glass of different colours. Regarding a particular kind of bead, barrel shaped and six sided, Mr. E. J. Bradshaw of the Geological Survey of India, to whom I am indebted for a preliminary classification of the beads and other mineral objects found in this relic-chamber, writes.—'This seems to be a piece of beautifully cut and polished rock-crystal (quartz) of unusual clarity, similar to the optical quartz used as wedges, etc., in optical instruments. It is worth noticing that the specimen is barrel-shaped and that the 'flat' ends are slightly convex. Such workmanship would be admirable at the present day.'

(42) Twelve small figures of elephants in impure jade, each with a hole passing through the head and body to allow them to be strung and worn round the neck. One of them is very small, being $\frac{5}{8}''$ in length, while the largest measures $1\frac{3}{8}''$. They are rather roughly cut and apparently of local workmanship. Chinese work in jade is infinitely superior; but among the beads are a few round ones of the same material, so absolutely perfect that no Chinaman could improve upon them.

(43) A small figure of a *makara*, probably in rock-crystal, with a hole bored through the head and body. Length: $1\frac{3}{8}''$.

(44) A small figure of a tortoise, probably in chalcedony, with white spots on the shell, and a hole through the body. Length: $\frac{3}{4}''$

(45) Another set (see No. 34 above) of 71 gold and silver rings; they are all plain except one, which is set with three tiny stones.

(46) A ring of rock-crystal.

MISCELLANEOUS OBJECTS.

(47) Four large lotuses made of silver, with many layers of petals; two of them have their stalks preserved (Plate XL, *e*). Diameter each: 7½″.

(48) Three lotuses in gold and silver, with many layers of petals; the one in gold is set with a stone, probably chalcedony, elliptical in shape. Each nearly 2″ in diameter.

(49) 46 lotuses with only one layer of petals; some are circular and others square; they range from 1⅝″ to 2¼″ in diam. Metal: gold and silver.

(50) 13 small plates with floral designs in relief; some of which are gilded.

(51) 33 small gold and silver bells.

(52) One tiny object in silver which looks like a Burmese cane foot-bal (*Chin-lôn*).

(53) 9 tiny gold and silver cups; the largest measures 3″ in diameter.

(54) Two thin gold plates ornamented with rows of dots. Breadth each: 2½″.

(55) Small silver boats, most of which are broken in several pieces, only five being in a fair state of preservation. The largest measures 7½″ in length.

(56) Gold and silver butterflies.

(57) 6 gold plates with the head of a lion embossed on them. The largest is 1¼″ in diameter.

(58) Two small figures of deer in gold.

(59) A small Brahmani duck; metal: silver gilt.

(60) Two small silver stands, one of which is circular and represents a lotus-throne. It is 4″ in diameter at the bottom, the height being 1½″; at the top is a rectangular opening on which was fixed a small Buddha image. The other stand is conical, and 2¼″ in height; the base is ornamented with stylized lotuses; the opening at the top measures 1″; use uncertain.

(61) A small coil of fine gold wire.

(62) Tiny bits of gold, silver, copper, bronze and iron.

(63) Small loose stones: spinels, sapphires, moonstones, oriental topaz, agates, amethysts, and jade.

(64) A lump of quartz.

(65) A ball of rock-crystal with a hole for a thread running through the centre.

(66) A conical piece of sagenite finely polished. It is also 'commonly known as venus hair-stone or flèches d'amour. It consists of crystaline quartz in which acicular crystals, usually of rutile (oxide of tatanum) are imbedded.'

(67) A ball of rock-crystal, polished and clear, similar to the one found inside the casket mentioned in No. 32 above.

(68) One *lota*-shaped earthen vessel with a spout.

Excavations at Kalagangôn.

Excavations on the site in Kalagangôn village, at which a fragment of a Hindu sculpture had been found, disclosed traces of a small brick building, of which only portions of the foundation walls remain. A few more fragments of a Hindu sculpture or of perhaps several such sculptures, were also brought to light, but unfortunately most of them were too small to admit of any certain identification. On one are the legs, probably of a standing figure, with the feet resting on a lotus with its stalk. Another fragment contains a portion of the body with the right arm; the forearm is bent in front of the breast; the hand is held palm upward, with an object in it too much spoiled for recognition. There are two other fragments with portions of legs of standing figures. On another and better preserved piece is, still intact, the representation of a *linga* 14″ in height; an indisputable proof of the existence of Shivaism at Prome, side by side with Vishnuism and Buddhism, the latter being the paramount religion and indicating a state of things exactly similar to what we see in the present day Burma, where Buddhism is pre-eminent but where Siva and Vishnu temples, erected by Indian settlers, are not uncommon. Among the bricks dug up from this site, were some with old Pyū numerals impressed on them. These belong to about the VIIIth—IXth century A.D., and the same age may probably be assigned to the fragments mentioned above.

Excavations at three other sites at Kalagangôn did not yield anything of interest. One of these was situated outside the village on the east, and the other two close by the Khin-bha-gôn already mentioned. The first disclosed the remains of a Buddhist stupa in which was buried an earthenware funeral urn containing charred bones. Beyond traces of a few brick walls, nothing was found at the other two mounds.

Mounds on the hills to the west of Old Prome.

During the year under report, excavations were resumed on the range of hills close to Old Prome on the west. Five small mounds were selected for the purpose. all situated on a hill known as the Kywê-gyaung-gôn. Most of them yielded terra-cotta votive tablets, specimens of which are shown in Plate XLII, *a*, *b* and *c*. Figure *a* is a circular tablet, nearly 3″ in diameter, bearing an effigy of the Buddha in the *bhūmisparśa-mudrā*; the right arm and shoulder are bare; the cast of countenance is Indian; on either side of the nimbus is a branch of banyan leaves. The Buddha is flanked on either side, on a level with the shoulders, by a stupa and the space below is filled with the Buddhist creed in Nāgarī characters. Figure *b* is smaller in size, being only about 2″ in diameter; here also the Buddha is in the *bhūmisparśa-mudrā*, but it is of a different type. The body is very slim, the neck longer than is usual and the face also somewhat elongated; the features have worn away and are indistinguishable, Flanking the Buddha, on either side, is a stupa with a spherical dome resting on a terrace, surmounted by a T shaped structure crowned with three umbrellas. All available space is filled in with the Buddhist creed in Nāgarī characters. Figure *c* is unfortunately only a fragment. It is a four-armed

Bodhisattva. The lower part of the body is seated in the *lalitāsana*; the fore part of the first left arm, half the hand of which has disappeared, is resting on the left knee; the second arm on this side is broken off at the shoulder. The hand of the first right arm is brought up against the breast, and holds an uncertain object. The second right arm hangs down at the side of the body, the finger tips lightly touching the seat. Near this hand, at the extremity of the seat, is a small kneeling figure in the *namaskāra-mudrā*, or worshipping attitude, and above it a tiny stupa. In front of the pedestal is inscribed the Buddhist creed in Nāgarī letters. On paleographical grounds and considering the rather archaic style of the miniature stupas on them, these tablets can be assigned to the VIIIth or IXth century A. D.; that is to say, they are older by at least two centuries than any of the tablets found at Pagan and mentioned in the first part of this report.

OTHER MOUNDS IN THE OLD CITY.

Excavations were conducted at nine other mounds situated in different parts of the old city site, but the finds made there consist mostly of much defaced terra-cotta votive tablets, or earthenware urns containing fragments of charred bones, which do not call for any detailed description.

Special mention should, however, be made of a large Bodhisattva sculpture; for it provides additional evidence of the existence at Prome of Mahāyānism along with Hīnayānism. This form of Buddhism completely disappeared from Burma many centuries since. The sculpture is in fragments, two of which from the middle of the stone, which would have enabled us to reconstitute the whole figure, could not be found. What remains measures 6′ 3″ in height by 4′ 2″ in breadth and 1′ 6″ in thickness. The figure is too much defaced to allow of identification. It wears a mitre-shaped head-dress, wrist lets and anklets, and is seated on a throne with the right knee raised and the left leg placed on a level with the throne. The left hand rests on the left knee; the right hand is missing. The figure seems to be seated in a niche, representing a temple, capped by a foliated arch adorned with flamboyant ornaments. In a panel below the throne are four guardians, two on each side of an object which looks like a salver; all are seated with one knee raised, and are holding in one hand the end of a club placed on the shoulder. Above and flanking the Bodhisattva are two small crowned figures, probably representing royal devotees.

SECTION III—EPIGRAPHY.

SANSKRIT EPIGRAPHY.

By Hirananda Sâstri.

DECIPHERMENT OF INSCRIPTIONS.

Last year three Brāhmi inscriptions were noticed at Nāgārjunikoṇḍa in the Palnād taluk of the Guntur district of the Madras Presidency by a member of the office of the Assistant Archæological Superintendent for Epigraphy at Madras. Their examination was sufficient to show that the site must be rich in antiquities and, as it had never been explored, I drew the attention of the Officiating Director General of Archæology to its importance and the desirability of early excavation. Mr. M. Hamid Kuraishi, the Officiating Superintendent of the Southern Circle, was accordingly asked to take up the work and trial excavations were carried out at three places, with excellent results, among the epigraphic materials recovered being no less than eighteen inscriptions of historic interest. Like the three records examined in the preceding year, the new discoveries belong to the Ikhāku dynasty, which must have held sway in the Āndhra country round the lower Kistna during the 2nd and 3rd centuries of the Christian era. Out of these eighteen inscriptions, fifteen are incised on marble pillars which stood on the four sides of the Mahāchetiya (*Mahāchaitya*) or Great Stupa mentioned in them; two are engraved on the pavements of two *maṁṭavas* or temples which are now in ruins but appear to have been apsidal in plan; and one on a broken but long frieze lying on the remains of a structure towards the west of the Mahāchaitya mound. Thus, including the three former records and excluding fragments, there are twenty-one old Prakrit inscriptions which have so far been recovered from the site at Nāgārjunikoṇḍa. More inscriptions may be expected from the débris of the Great Stupa, especially on the eastern and northern sides, where only fragments of some of the pillars have so far been recovered.

The Ikhāku dynasty mentioned in these epigraphs claimed descent from Ikhāku (*i.e.*, Ikkhāku, Skt. Ikshvāku), the well-known progenitor of the solar race of Ayodhyā. Its existence in Southern India was first revealed by the three Prakrit inscriptions on shafts of pillars called *āyaka-khambha*, which were found by Dr. Burgess in the year 1882 at Jaggayyapeṭa, 30 miles north-west of Amarāvatī.[1] The three Jaggayyapeṭa inscriptions, the contents of which are nearly identical with those of the inscriptions found from the Mahāchetiya mound at Nāgārjunikoṇḍa, are dated in the 20th regnal year of an Ikhāku king whose personal name was Māḍhariputa Sirivirapurisadata. Bühler, when editing them,[2] relegated the reign of king Sirivirapurisadata,[3] who was the

[1] Jas Burgess, *The Buddhist Stupas of Amaravati and Jaggayyapeta*, London, 1887, pp. 110*f*. Cf. Lüders, *List of Brahmi Inscriptions*, Nos. 1202-1204 (*Ep. Ind.* Vol. X, app. pp. 139*f*)

[2] *Ind. Ant.* Vol. XI, pp. 256*f*.

[3] Personal names are here reproduced in the form in which they appear in the inscriptions.

son of Vāsiṭhiputa Sirichātamūla, to the 3rd century A. C. Burgess considered that the characters in which these inscriptions are written "belong to about the third or fourth century A. D., but possibly earlier."[1] He further remarked[2] that the "character of the alphabet in which these documents are engraved probably belongs to a later period than the original construction of the stupa," and added that "a few letters found on the capitals of the pilasters surrounding the base of the stupa are of a very much earlier form; indeed, they so closely resemble the Maurya alphabet, that there can be little doubt that the original structure belongs to a date considerably before the Christian era." All the inscriptions found at Nāgārjunikoṇḍa, or rather the *khambhas* on which they are engraved, seem to be posterior to the Great Stupa; for the words referring to this *Chetiya* "*samma-sambudhasa dhātu-vara-parigahitasa*" indicate that it must have been in existence when they were set up by the descendants of the Ikhāku dynasty. Who built it and when, we cannot say at present; for the records are all silent on these points. One of the inscriptions excavated this year, *viz.*, the one which is written on the fifth pillar on the south side of the Mahāchetiya mound, states that the slab, apparently the one bearing the record, was put up when the Mahāchetiya was being raised (*samutthāpyamāne*). The use of the root *sam+ut+sthā* is significant and implies that the stupa was rebuilt in the time of Sirivirapurisadata, when some more buildings like the '*Selamaṁṭava*' (=*Śailamaṇḍapa*) mentioned in the long inscription found in the remains of one of the two temples, were also erected. Perhaps, further exploration may reveal some clue to solve the questions definitely. We find that almost all of these records lay great stress on the consecration of the stupa by the deposit of the *dhātu* of the Buddha. Similar remains, we know, were deposited in the stupa at Bhaṭṭiprolu, which lies 4 miles from the right bank of the main channel of the Kistna. The Bhaṭṭiprolu deposits, as evidenced by the inscriptions incised on the reliquaries or caskets found there, belong to about 200 B. C. It is likely enough, therefore, that this *chetiya* was originally constructed about the same time. Why these out-of-the-way sites were selected for such holy relics, is not apparent. Perhaps the river Kistna afforded easy navigation in those days and made them accessible. The site of Nāgārjunikoṇḍa must have been held in especial sanctity or it may have been selected on account of its comparative safety. It was due to the latter circumstance, perhaps, that the *theras* (monks) and *therīs* (nuns) from Ceylon (*Tabapanidīpa*), as one of the two long inscriptions found this year seems to show, selected the spot for erecting their *vihāras* and other buildings. So far, it is not known if any special sanctity originally attached to it, unless such sanctity was derived from its connection with Nāgārjuna—a point which still remains to be proved. This long inscription shows that the *vihāra* and the *chetiya* with which it was connected were located on Siripavata, and that there was a town in its neighbourhood called Vijayapuri; for it clearly states that a *chetiya* was caused to be made on the Siripavata and towards the eastern portion of Vijayapuri in

[1] *The Buddhist Stupas of Amaravati and Jaggayyapeta*, p. 110.
[2] *Ibid.* p. 111.

a *vihāra* and on a hillock called Chuladhamagiri. The latter was perhaps the ancient designation of the hillock now known as Nallarallabōḍu on which the record was found. Where the town Vijayapuri stood is not known. But Siripavata (Sanskrit Śrīparvata) seems to designate the chain of hills round Nāgārjunikoṇḍa. This assumption, if correct, heightens the interest of this locality, for it was in a monastery at Śrīparvata that Nāgārjuna, the reputed founder of Mahāyānism, is said to have died. Already before this event, the site had become sacred to Buddhism on account of the deposit of the *dhātu* of the Buddha referred to, and its modern name—Nāgārjunikoṇḍa, meaning 'the hill of Nāgārjuna' lends further support to the identification proposed.

The *Matsya* and several other *Purāṇas* speak of a family of the *Śrīparvatīya-Āndhrabhṛityas*, who are said to have ruled fifty-two years (or possibly 100 years)[1], and according to the *Bhāgavata-Purāṇa* there were seven kings of this line (*sapt-Ābhīrā Āndhrabhṛityāḥ*). No remains, however, of any old Hindu shrine have yet been observed in the vicinity. Still, as a Telugu inscription dated Śaka 1413,[2] which was found last year, implies, there must have stood here in the 15th century an important Śiva temple which was adorned with "golden pinnacles." Possibly the remains on the hill above the Buddhist ruins, where this inscription is lying, represent the temple in question. This being the case, the identification of Śrīśailam with Śrīparvata which was proposed by Burgess[3] and other scholars will have to be rejected.

The inscriptions so far found at Nāgārjunikoṇḍa, excepting two, are all dated between the sixth and the eighteenth regnal years of king Sirivirapurisadata, those recovered from the Mahāchetiya mound being dated in the 6th year of his reign. The two exceptions referred to were noticed last year on a mound at some distance to the west of the Mahāchetiya mound and are dated in the tenth year of the reign of Vāsiṭhiputa Siribāhuvala-chātamūla. Taken together, they indicate that Sirivirapurisadata or the ruler spoken of in the three Jaggayyapeṭa inscriptions had succeeded his father Vāsiṭhiputa Sirichātamūla and was in his turn succeeded by his son, Vāsiṭhiputa Siribāhuvala-chātamūla. The inscription belonging to the reign of the latter records the donation of a stele and a *vihāra* by a royal lady of the Ikhāku dynasty whose name is not preserved but who is called the consort of the Mahārāja of Vanavāsa. The name Vanavāsa is apparently a variant of Vanavāsi, which in turn is identical with the Banavāsi of the Indian maps lying in lat. 14°33′, long. 75°5′. Both the forms Vanavāsa and Vanavāsi occur in inscriptions, though the *Vikramāṅkadevacharita* gives the former only. After the close of the Third Council Tishya, the son of Moggali, resolved that the Law of the Buddha should be communicated to foreign countries, one of which was Vanavāsi, whereto, according to the *Mahāvaṁśa*, Rakshita was sent. In the 2nd century A. D. Ptolemy noticed it in his Geography (VII, ch. 1, § 83) as Βαυβασι. The name originally seems to have designated a tract lying to the south of North Kanara, and also its

[1] Pargiter, *Dynasties of the Kali Age*, pp. 44, 46, 72.
[2] See *Annual Report on South Indian Epigraphy* for 1926, p. 70, No. 390.
[3] *Buddhist Stupas of Amarāvati, etc.*, p. 7.

capital town. In old Kanarese inscriptions it is mentioned as "Banavāsi Twelve-thousand[1]." In addition to this information, these records acquaint us with the names of several more members of the same royal house, some Buddhist monks and other persons. The inscriptions taken from the Mahāchetiya mound invariably record the dedication of the stele (*khambha*), evidently as remarked above, the stone slabs on which they are incised, at the great Chetiya (Skt. *chaitya*) which enshrined the sacred corporeal remains (*dhātu*) of the Lord Buddha, mostly by the princesses of the Ikhāku dynasty. Of those royal ladies one named Chāntisiri seems to have been very prominent and most of these dedications were made by her. She is described as the uterine sister of King Sirichātamūla and as the paternal aunt (*pituchhā*) of king Sirivirapurisadata. She was married to the Mahātalavara Vāsiṭhīputa Puriyāṁkaḍasiri and consequently bears the title of Mahātalavarī as well. The term *talavara* (fem. *talavari*) is not a Sanskrit word but appears to be the Sanskritized form of some word belonging either to Tamil or to some other Dravidian language. It occurs in several of these inscriptions, as it does in the fragmentary Prakrit inscription from Allūru in the Nandigama *taluk* of the Kistna district, and in a damaged inscription dug up by Mr. Hamid at Ramireḍḍipalli this year. It is interesting to observe here that, whereas in each case this royal donatrix, Chāntisiri, appears as a devotee of the Buddhist religion, these inscriptions agree in characterising the king Vāsiṭhīputa Sirichātamūla, her uterine brother, as a follower of Brahmanism and as a performer of the Vedic sacrifices Agnihotra, Agnishṭoma, Vājapeya and Aśvamedha and a protégé of Mahāsena, the commander of Śiva's hosts, *i.e.*, Kārtikeya, the Indian Mars. This sort of religious toleration is indeed remarkable and stands in marked contrast with the perverted zeal of Śaśāṅka, who spared no pains to destroy Indian Buddhism root and branch.

Now for the contents of these records. So far sixteen inscriptions have been secured from the Mahāchetiya mound, three on the east side, five each on the south and west sides and three on the north side. Excepting the details about the family connections of the donor, or rather the donatrix, of these dedications, the contents of these records are practically identical. Their first part usually praises the Buddha and mentions the consecration of the Great Chetiya by the deposit of his *dhātu* or corporeal remains. Then follow the details regarding the family connections of the donatrix accompanied by the object of the grant, which is similar to that of the other Buddhist *deyadharmas* or pious gifts, being the welfare of the donor, of his or her relations, and of the universe, etc., and is followed by the date which is the same in all these inscriptions. No less than ten of these gifts are dedicated by Mahātalavarī Chāntisiri. She is spoken of as a very charitable lady, whose beneficence was extended to *Samanas* (*Śramaṇas*), *Bamhanas* (Brahmans), *Kavanas* (*Khapaṇas*), *Vaṇijas* (merchants) and others. The remaining epigraphs are the records of similar dedications by

[1] For example see *Ep. Ind.* Vol. XVI, p. 353. For further references see *Dyn. Kan. Dist.*, (*Bombay Gazetteer*, Vol. I, Part II, p. 278, f. n., 2).

[2] *Annual Report on South Indian Epigraphy* for the year 1926, p. 97 and *A. S. R.* for 1923-24, p. 93.

different ladies, one of whom seems to have been Mahārabalikā who possibly hailed from Ujjain. Together with Chāntisiri she gave large donations towards the restoration of the great Chetiya. As to the rest, we are told that Mahātalavarī Adavi Chātisiri was the daughter of Vāsiṭhīputa Ikhāku Sirichātamūla and sister of king Māḍhariputa Sirivirapurisadata. She was the wife of Mahātalavara Mahādaṇḍanāyaka Khaṇḍaviśākhamoka (?) of the Dhanaka (clan?). One of the wives of king Sirivirapurisadata was named Mahādevī Vapisirinikā who is described as the young daughter (*bālikā*) of Hammasirimñika, another uterine sister of Vāsiṭhīputa Ikhāku Sirichātamūla. The other wife of this ruler, namely, Sirivirapurisadata, was called Mahādevī Chaṭhisiri and was a young daughter of Hammasari, the sister of Sirichātamūla. Another donatrix mentioned is a Mahātalavarī who was the mother of Mahātalavara Mahāsenāpati Viṇhusiri, and wife of Mahāsenāpati Mahātalavara Vāsiṭhīputa Mahākuṁdasiri of the Prakiya (clan?). The other donatrix spoken of is named Chulachātisirinikā, who is described as Mahāsenāpatinī, the wife of Mahāsenāpati Mahātalavara Vāsiṭhīputa Khaṇḍachalikamanāka (?) of the Hirāmñaka (*clan* ?) and young daughter (*bālikā*) of the "Kulahakas." It will thus be seen that all these dedications were made by ladies mostly connected with the Ikhāku dynasty. The inscriptions found in the *maṇḍapas*, as well as those found last year, also record donations by ladies only. The religious preceptors mentioned in some of the inscriptions evidently inspired these pious deeds. Not a single inscription has yet been found here which records a donation or dedication by any male member of this royal house, though it is significant, that all the three rulers whose names they have revealed to us, allowed their names to be associated with those of their female relations. Was this due to their regard for these ladies or to their religious toleration?

Of the whole series the earliest inscription is the one standing on a mound called Iṭikarāḷḷabodu, some two furlongs to the north of the Mahāchetiya mound. It is dated in the second year (*bitiya*) of the reign of the king Sirichātamūla and records the dedication of a *vihāra* by Mahādevī Bhaṭidevā, the wife of Mahārāja Māḍhariputa Ikhāku Sirivirapurisadata. The inscriptions found on the Mahāchetiya mound are all dated on the tenth day of the sixth rainy season and the sixth regnal year of king Sirivirapurisadata. Without going into further details it may be mentioned here that one of these inscriptions, which is incised on the fifth pillar on the south side of the mound, acquaints us with a lady who presumably bore the name of Mahārabalikā. She has the title of Mahādevī and Bhaṭṭarikā and in all probability she hailed from Ujjain (Ujanikā). The wording relating to her dedication of a *selakhamba* or stone pillar for her attainment of bliss and emancipation, is such as to suggest that Mahātalavarī Chāntisiri of the 'Prukiyas' was her fellow or joint donatrix, since both appear to have contributed a large amount in *dīnāras* and given 170 *khambas* for the *vihāra* connected with the Mahāchetiya when the latter was 'being raised, up', *i.e.*, presumably restored. This *vihāra*, perhaps, stood north-west of the great stupa, where its remains are still evidenced by the above mentioned pillar inscription dated in the second year of king Sirichātamūla.

As to the contents of the long inscriptions on the pavements of the two *maṁṭavas* or temples whose remains were opened this year, we find that the one written in two lines is dated on the 5th day of the 6th fortnight of the winter season of the 18th regnal year of king Sirivirapurisadata. The date is expressed both in words and in numerical symbols. It records the construction of a *selamaṁṭava* or stone temple with four halls at the foot of the Mahāchetiya consecrated by the deposit of the corporeal remains of the Buddha by Chāntisiri, the uterine sister of the indomitable Vāsiṭhīputa Sirichāntamūla of the Ikhāku race who performed several Vedic rites like the Agnishṭoma (*Agiṭhoma*), Vājapeya and Aśvamedha. Like the inscriptions on the pillars of the Mahāchetiya, this record also describes her as the wife of Mahātalavara Vāsiṭhīputa 'Khadasiri' of the 'Pugiyānas' [1] and as the mother of Khaṁḍasāgaras. It says further that this dedication was made to secure long life for king Māḍhariputa Ikhāku Sirivirapurisadata, here spoken of as her (Chāntisirī's) son-in-law, for her own welfare and for the welfare of both of her families as well as for the comfort of pious people coming from different countries.

The other epigraph has four lines. The portion containing its date is somewhat damaged and the year is not clear, except the figure for 10. Possibly it is 15 or 18. But the other particulars are well-preserved. They are the sixth fortnight of the winter season and the 13th day of the reign of king Sirivirapurisadata. Here, too, the date is expressed in words as well as in figures. The inscription is a record of the construction of a *chetiya*, a *selamaṇṭava* and some other structures. The name of the architect mentioned in it seems to be Sala-vaḍhāki (stone-mason) Vidhika who, possibly, worked under the supervision of the monks (= *sthaviras*) Chandamukha, Dhammabhaṇḍi and Naga. The lady who was responsible for the construction of these structures seems to have been Bodhisiri, an *Upāsikā* or lay votary of the Buddha. The record gives a long list of the names of this lady's relations with details; her brother being Budhiṁtaka and her father Revatagāhapati who resided at Sagovagāma, while Budhanikā was her maternal aunt, and so on. All these persons are mentioned as having a share in the merit of the pious deed done by the lady Bodhisiri. It is worthy of remark that this record mentions not only the contiguous tracts like Vega (Vengi) and Vanavāsa (North Kanara) but Chīna (China) and other distant regions such as Kasmira (Kashmir), Gandhāra and Tambapani as well.

The excavations at Gummadidurru near Rāmireḍḍipalli in the Nandigāma *taluk* of the Kistna district also yielded some Prakrit inscriptions for the most part in a fragmentary state. With one exception, they are written in the Brāhmī script of about the 2nd or 3rd century A. D. Two are worthy of notice. One is incised on the lower margin of a broken frieze and the other on the pedestal of a Buddha figure, cut on a marble pillar in bold relief. The former, which is much damaged, mentions a Mahātalavara Mogūya, which reminds us of the Mahātalavara Pūkiya or Prūkiya of the Nāgārjunikoṇḍa records. It appears to mention some *pari-*

[1] Pukiya and Prukiya are apparently its variants.

bājakas (Skt. *parivrājakas*) as well as a king whose name was possibly Hathika. Apparently the epigraph records the renovation of the Mahāchetiya from whose remains it has been taken out. The other inscription, which is written in a comparatively late alphabet, may be relegated to about the 8th century A. D. It records the consecration of the image of the Lord (*i.e.*, the Buddha) by one Rāhula, a *Sramaṇera* (=*Śramaṇa*) who was the disciple of Āchārya Dharmadeva, the favourite *śishya* of Āchārya Shāgalāyana.

Of the other inscriptions deciphered during the year four came from the Peshawar Museum. One of them is dated in Samvat 708, *i.e.*, 651 A. D. and makes an interesting mention of the Kapiśikas or the inhabitants of the Kapiśa kingdom, *i.e.*, North-eastern Afghanistan. The script, however, in which this record is written does not appear to be as old as the date mentioned in it. Another inscription, which was sent to me by the Madras Government for decipherment and opinion, is incised on a copper-plate which was found in a private house in the Pānyam village of the Nandyal taluk of the Kurnool district. This document purports to belong to a king named Vishṇuvardhana of the Chandra-vaṁśa or Lunar race, who is referred to as the Lord of Pāṭaliputra and as ruling in Śaka 821, *i.e.*, A. D. 899. The inscription does not specify the dynasty of the king and the date given does not synchronise with that of any of the homonymous kings known to history, Hoysaḷa or Chālukyan. This fact alone suggests that it is not a genuine record. Possibly the man who wrote it wanted to identify him with the 'Guttas', who were known as *Pāṭalipuravarādhīśvaras*, *i.e.*, the Liege-lords of the excellent town of Pāṭalipura, though even in that family (*i.e.*, among the Guttas) we do not find any ruler of this name. Apart from this fact, the characters of the inscription are much too modern for the date given in it. The record purports to confer the sale proceeds of the fish in the tanks Pānyamcheruvu, Raticheruvu and Vaḍḍuguṇḍlacheruvu on the Boyis or palankin-bearers who carried in procession the god Panankesvara on festival days. Another inscription comes from Koṭa Umachigi in the Dharwar district, an impression of which was sent by the President of the Karnatak Historical Association, Dharwar, for examination. It belongs to the reign of the Western Chalukya king Tribhuvanamalla Vikramāditya V and is dated in Śaka 934, *i.e.*, A. D. 1012. The object of it is a record the gift of some lands and house-sites in the *agrahāra* Umachigi made by the *Mahāsāmantādhipati Daṇḍanāyaka* Keśavaiyaṁgaḷu who was ruling over Beḷavala 300 and Puligere 300, with the sanction of "the Liege-lord," *i.e.*, Tribhuvanamalla Vikramāditya V, for the maintenance of worship in certain temples named in it, a *sattra* and some teachers of different branches of Sanskrit learning like Nyāsa, Gaṇita, Astronomy, Prosody, etc. Yet another inscription that deserves mention is the one that was examined for the Director of Archæology in the Hyderabad State. It is a bilingual record written in (corrupt) Sanskrit and Persian, and is dated in the Samvat year 1599 falling in the reign of Sher Shāh, the well-known Sur ruler of Northern India who defeated Humāyūn and assumed the sovereignty of Delhi in A. D. 1540. Apparently it records the construction of a tank and a *chhatri* or sepulchre of one

Miyān I (Yu)saf. The other date given at the beginning of this inscription seems to belong to the Hijra reckoning, though it is referred to as Śaka. It reads 984 instead of 948, the last two figures having apparently been interchanged.

COLLECTION OF KANARESE INSCRIPTIONS IN THE BOMBAY PRESIDENCY.

During the year under review two Assistants in my office, namely Messrs. N. Lakshminarayana Rao and R. S. Panchamukhi were sent to the Dharwar District in the Bombay Presidency to carry on the epigraphical survey that was started last year. One of them went to the Gadag and the other to the Ron Taluk of the district. The former visited 64 and the latter 29 villages securing 164 and 69 inscriptions respectively. One of them also visited two villages in the Hungund taluk of the Bijapur District, where he copied 7 Kanarese inscriptions. Thus 240 Kanarese inscriptions were copied in all. Of these, two are of the early Western Chālukyas, twenty of the Rāshṭrakūṭas, one hundred and one of the later Western Chālukyas, eighteen of the Kalachuryas, eleven of the Hoysaḷas, fifteen of the Yādavas, four of the Sindas of Yelburga and five of the kings of Vijayanagara, the rest being unassignable to any dynasty.

Both the inscriptions of the Western Chālukyas copied during the year are referable to the reign of Vijayāditya, though neither of them bears any date. The inscription from Kurtakōṭi mentions a certain Lōketinimmaḍigaḷ, who appears to have been a local chief.

The Rāshṭrakūṭa dynasty is well represented in this collection. An undated record from Belhoḍ gives the name of the ruling king as Prabhūtavarsha Jagattuṅga. Though the surname Jagattuṅga was borne by two Rāshṭrakūṭa kings, namely Gōvinda III and Gōvinda IV, yet the inscription under reference may well be assigned, on palæographical grounds, to the earlier one, and in that case would be the first known stone record of that ruler. Of Amōghavarsha I, who was one of the most powerful rulers of the line, four inscriptions have been secured. One of them, which comes from Soraṭūr, is dated in Śaka 788 (A. D. 866), and records the gift of taxes on ghee which was made by the king's *Mahāsāmanta* Āhavāditya Kuppayarasa, the governor of the Puligere-Three-hundred. Dēvaṇṇayya was another subordinate of the king and figures as the governor of Beḷvola-Three-hundred in two inscriptions. The records of Akālavarsha Kṛishṇa II copied during the year reveal to us the names of two feudatories Maṅgatōraṇa and Śrīmanta, of whom the former was ruling over Beḷvola-Three-hundred in A. D. 892, while the latter was the governor of the same province in A. D. 901. An inscription from Veṅkaṭāpur belongs to the reign of Amoghavarsha and mentions Sirivanta as the governor of Beḷvola and a certain Māyirmma as the chief of Muḷugunda-Twelve. The fact that Kṛishṇa II (Akālavarsha) was the reigning king in A. D. 906 and that Sirivanta (or Śrīmanta) was his subordinate will, however, make us surmise that the name Amoghavarsha occurring in this record is a mistake for Akālavarsha. In an epigraph from Asuṇḍi, dated Śaka 847 (A. D. 925), the king is called Nityavarsha. Now, we know that it was Govinda IV who was the Rāshtra-

kūṭa ruler in that year. It is obvious, therefore, that Nityavarsha must have been his *biruda*, as it was of his father Indra III. One of the remaining inscriptions of Kṛishṇa III noticed this year records some gift to a *basati* at Naregal by Paddabbarasi, apparently the queen of Būtuga, the famous Gaṅga feudatory. The collection contains 101 epigraphs of the Chālukyas of Kalyāṇi. Āhavamalla Taila II, who retrieved the fortunes of the Chālukya family, is represented by only one record, wherein Koralagunda of the Sinda family is stated to have been the chief of Muḷugunda-Twelve in Śaka 915 (A. D. 993). A Jaina record from Lakkuṇḍi of the Śaka year 929, though it falls in the reign Iṛivabeḍaṅga Satyāśraya, names the reigning king as Āhavamalladeva. Now, Āhavamalla is known to be the surname of Taila II, the father of Satyāśraya. According to this document, however, it would appear that this was the epithet of the son, *i.e.*, Iṛivabeḍaṅga Satyāśraya, also. In another record of this king, *Mahāmaṇḍaleśvara* Sōbhanarasa, who is familiar to us as the feudatory of Taila II, is represented as the governor of Beḷvola-Three-hundred and Palasige-Twelve-thousand. One of these inscriptions belongs to the time of Tribhuvanamalla Vikramāditya V and, being dated in the Śaka year 934 (A. D. 1012), would extend his reign by one year, since the latest date hitherto known for him was A. D. 1011.[1] *Mahāsāmantādhipati* Dāvaṇarasa, mentioned in one of these records, is the name of an unknown subordinate of Jayasiṁha II who was ruling over Beḷvola-Three-hundred and Puligeṟe-Three-hundred in Śaka 950. Another record copied last year introduces to us for the first time a Brahmin general of Bhuvanaikamalla Sōmēśvara II, namely, *Daṇḍanāyaka* Jannamayya of the Karma family. It states that he granted the village named Kaḷḷamanapaḷḷi situated in Kisukāḍu-Seventy to the temple of Traipurusha, which was built by him at Niḍugundi with the permission of the king who was then residing at his *nelevīḍu* Baṅkāpura in the Banavase province, *i.e.*, the extreme south of North Kanara. As usual, the records of Vikramāditya VI are also numerous in this collection. Two of them acquaint us with Sakalaprakāśa-bhaṭṭarāka, the preceptor of the king. One of these, while stating that he was administering the town of Hosavūru, supplies additional information regarding certain grants of land made by Nākigāvuṇḍa to the temple of Morakeśvaradeva in the presence of one Hollarasa of the Sinda family and Narasiṁha-Nāyaka, the brother-in-law (*mayduna*) of Sakalaprakāśa-bhaṭṭāraka. *Mahāmaṇḍaleśvara* Nāmiyaṇṇa of the Kāḷasēna lineage and *haṭṭagārakula* (weaver caste) figures in two records as the *sarvādhikāri* of Hermāḍidēvarasa, *i.e.*, Perma-Jagadekamalla II. Sōmeśvara IV, who revived the Chālukya sovereignty after overthrowing the Kalachuryas, is described in one of the documents of this collection as *Kalachurya-kula-nirmūlanam*, "the destroyer of the Kalachurya family." It registers a grant of land made by Jākiyakka, the wife of Śrīdhara-daṇḍanātha, to the god Mallikārjuna of Svayambhutīrtha.

The inscriptions of the Kalachuryas copied this year do not add anything material to our knowledge of them. Of the Hoysaḷas, Vīra-Ballāḷa II is the only king whose inscriptions have been secured. A record of his time dated

[1] Fleet's *Dyn. Kan. Dists.* Table facing p. 248.

in Saka 1129 (A. D. 1207) states that a grant of land was made by *Mahā-pradhāna* Chikka-Narasiṅgayya, the second son of the king, who was then the governor of Muḷugunda-Twelve to the god Morakeśvara, showing thereby that Ballāḷa II had more than one son. Otherwise, this prince would not have been spoken of as *yeraḍaneya kumāra.*

Only three kings of the dynasty of the Yādavas are represented in this collection, *viz.*, Siṅghana, Krishṇa (Kannara) and Rāmachandra. Two inscriptions which relate to Siṅghana acquaint us with the names of two officers, Vāsudeva-Nāyaka and *Maṇḍalika-pitāmaha* Khaṇḍeyarāya Bhāskara-Nāyaka. The former of these officers is described as the chief counseller of the king and ruling over Kisukāḍu-Seventy from its capital Eraṁbarage, which is identical with Yelburga in the Nizam's Dominions. The few records of the princes of the feudatory family of the Sindas which were copied last year furnish us with some important dates. Āchugi II, who was a subordinate of the Chālukya emperor Vikramāditya VI and for whom the only date known was A. D. 1122,[1] figures as a *Mahāmaṇḍaleśvara* in one of them which can be relegated to A. D. 1125-26. Again, for his grandson Vīra-Bijjaṇa we have the date Saka 1096 (A. D. 1174), which extends his rule by four years, since the latest date assigned to him by Dr. Fleet is A. D. 1170.[2] A record from Harti, which is referable to the seventh regnal year, Vijaya (equivalent to A. D. 1172), of this prince, enables us to fix the beginning of his reign in A. D. 1167. It may, therefore, be assumed that he ruled from A. D. 1167 to A. D. 1174.

The latest inscriptions of the past year's collection are those of two of the kings of Vijayanagara, *viz.*, Achyutarāya and Sadāśivarāya. Of these a record of the time of Achyutadevarāya found at Gadag and dated in Saka 1460 (A. D. 1538) is interesting, as it makes mention of Kumāra-Vyāsa, the famous Kannaḍa poet. It is the first epigraphical reference to this *kavi* so far known to us.

TOURS OF THE GOVERNMENT EPIGRAPHIST FOR INDIA.

In the month of February I went to Nāgārjunikoṇḍa in the Guntur district and thence to Gummaḍidurru in the Kistna district with a view to examine *in situ* and copy the several Brāhmī inscriptions noticed above which had been excavated by Mr. Hamid, when he was officiating for Mr. Longhurst. On return from these places I had to visit Elephanta to prepare a Guidebook to the well known caves lying on that island. The guide published by the Public Works Department of the Bombay Government was out of print and the need of a reliable account of the caves was keenly felt. From Bombay I snatched a visit to Mathura to inspect the female figure enshrined at Sonekeda and study the early Brāhmī inscription incised on its pedestal.

PUBLICATIONS: EPIGRAPHIA INDICA.

During the year under report five parts of the *Epigraphia Indica, viz.*, part viii of Vol. XVII, parts v, vi and vii of Vol. XVIII and part i of Vol XIX,

[1] Fleet's *Dyn. Kan. Dists.* p. 574.
[2] *Ibid.* p. 576.

were passed for final printing and issue. Of these, parts v and vi of Vol. XVIII alone were actually issued by the press. These two parts comprise eight papers, of which two were contributed by the late Dr. Hultzsch, two by Rai Bahadur Daya Ram Sahni, and one each by Drs. Sten Konow, D. R. Bhandarkar, L. D. Barnett and Rai Bahadur Hiralal. Dr. Barnett's paper deals with eight Kanarese inscriptions whose dates range between 1107 and 1162 A.D. One of these inscriptions has a Sanskrit prelude and belongs to the reign of Tribhuvanamalladeva Vikramāditya VI. It chronicles a gift of land to the temple of Kaḷaśeśvara in Kaḷaśavaḷḷigēri and extols the Beḷvala-*nāḍu*, Pūli, the Hundred of *Kaḷaśavaḷḷigēri*, the Śaiva divine Siddheśvara and his disciple Sōmeśvara, both of whom were Āchāryas of the said sanctuary. Another inscription in this group also belongs to the reign of Vikramāditya VI, and makes an interesting reference to Rēvakanirmaḍi and Kanhara. Kanhara is the Rāshṭrakūṭa Kṛishṇa III, and Rēvakanirmaḍi was his elder sister; she married the Gaṅga Satyavākya Būtuga II, who succeeded to the throne between 933 and 940 A.D. The remaining inscriptions of this group that deserve mention here belong to the reign of the Kalachurya king. Tribhuvanamalladeva (Bijjaḷa). One records the restoration of the decayed temple of Keśava (Vishṇu) of Nāgarakhaṇḍi and a gift of land to maintain it, and the other the grant of some lands for the upkeep of some local establishments as well as for the expenses of the worship of the Agastyeśvara temple. Both of these records celebrate the excellences of the family of one Dāsirāja, whose pedigree they also give.

Of the two inscriptions edited by Rai Bahadur Daya Ram Sahni one comes from Don Buzurg and the other from Chhatarpur, the former being dated in Samvat 1176 and the latter in 1177, both being issued by king Govindachandra, the Gāhaḍavāla king of Kanauj. Like other charters of this ruler, they register grants of villages to certain Brahmans.

Of the two papers contributed by the late Dr. Hultzsch, one is devoted to the Vemalūrpāḍu Plates of Ammarāja II. The record on these plates is written in the Telugu script and Sanskrit language. It opens with an historical account of the ancestors of the Eastern Chalukya king Ammarāja II, which is nearly identical with that given in the Maliyapundi grant of that ruler.[1] While alluding to the attack made by Vallabha, *i.e.*, the Rāshṭrakūṭa king Kṛishṇa II, on Bhīma I, it indicates that the latter bore the surname Ritasiddhi and that Vikramāṅka, *i.e.*, Vikramāditya I, had received the dignity of heir apparent but had not ascended the throne. The grant referred to in this document was that of two fields which had been cut off from the two villages of Aṇmaṇanguru and Aṇḍeki, the modern Addanki in the district of Karmarāshṭra, which Dr. Hultzsch rightly identified with portions of the Ongole taluk of the Guntur district. The other inscription edited by Dr. Hultzsch was discovered in the village of Kopparam in the Narasaraopet taluk of the Guntur district. It had already been edited in the *Annals of the Bhandarkar Oriental Institute*,[2] but its republication in the *Epigraphia Indica* was fully justified by the marked im-

[1] *Ep. Ind.* Vol. IX, p. 47*f*.
[2] *Ibid.* Vol IV, p. 43*ff*.

provements in the readings and renderings of its text, which Dr. Hultzsch has been able to make. The former editor of the inscription identified a great warrior named Prithivī-Duvarāja with Satyāśraya Dhruvarāja Indravaraman of the Goa plates of Śaka 532,[1] but Dr. Hultzsch seems to be right in identifying him with Vishṇuvardhana I, the younger brother of Pulakesin II and the founder of the Eastern Chalukya dynasty. The late Mr. Sewell added a postscript to this article in which he has settled the date of this record as Thursday, October 10, A.D. 631.

One of the most important contributions of the year was that made by Dr. D. R. Bhandarkar on the Sanjan plates of Amoghavarsha I of the Śaka year 793, which had been partially noticed in the pages of the *Journal of the Bombay Branch of the Royal Asiatic Society*, Vol. XX, by his brother the late Professor Sridhar Ramakrishna Bhandarkar wherein he had discussed two of its verses to show the contemporaneity of the Rāshṭrakūṭa king Govinda III with the Pratīhāra ruler Nāgabhaṭa, the Kanauj sovereign Chakrāyudha, and the Gauḍa king Dharmapāla. These plates, as Dr. Bhandarkar has remarked, constitute the first genuine record, hitherto known of the Rāshṭrakūṭa king Amoghavarsha for, though many inscriptions of his time had come to light, none of them seemed to have directly originated from him, and even the best known of them, *viz.*, the Konnūr stone inscription professed to be a mere copy of some copper-plate charter of his, which was prepared about the middle of the 12th century A.D. The inscription is written in the characters of the period to which it belongs and in Sanskrit prose. In his treatment of this interesting record Dr. Bhandarkar has made improvements on some of the readings given by Kielhorn in his paper on the Konnūr inscription[2] and thrown new light on its contents. For instance, he seems to be right in thinking that Prichchhaka-rāja must be another name of Indra-rāja, who is mentioned as the father of Govinda I in the fragmentary Ellora Daśāvatar Cave temple inscription.[3] He also appears to be right in reading *Dhārāvarshas=tatas* for *Dhārāvarsha-sutas* in the Konnūr Inscription and *Karkarāt prabhuḥ* in place of *karkara-prabhuḥ*, which he rightly suggests must be the same as the Karkarāja occurring in the Konnur record. This charter describes Amoghavarsha as *Paramabhaṭṭāraka Mahārājādhirāja Parameśvara Prithivīvallabha*, the prosperous *Vallabhanarendradeva*, who meditated on the feet of the *Paramabhaṭṭāraka Mahārājādhirāja Parameśvara*, the prosperous Jagattuṅgadeva and records that in the Śaka year 793, when Amoghavarsha was staying at Mānykheṭa, his capital, he granted to four Brahmans, whose names are given in the charter, the village Jharivallika from the 24 village group adjacent to Sanjana, apparently identical with Sanjan, where the plates were discovered, for the purpose of maintaining the *bali, charu, Vaiśvadeva, agnihotra* and *atithi-tarpaṇa* ceremonies. It further tells us that the Rāshṭrakūṭas in the time of Indrarāja came first into hostile contact with the Chalukyas, not of the Deccan but of Gujarat; for the seat of

[1] *J. B B. R. A. S.* Vol. X, p. 365*f.*
[2] *Ep. Ind.* Vol. VI, p. 29*ff.*
[3] *Arch. Surv. West. Ind.* Vol. V. p. 87.

this Chalukya power is mentioned as Kheṭaka which is the same as Khaira in North Gujarat. These Chalukyas must, therefore, be the Gujarat branch of the main dynasty ruling at Bādāmi. In describing Dantidurga, the successor of Indrarāja, the record informs us that a Gurjara dynasty called Pratīhāra was then ruling at Ujjain. There can be little doubt that this must be the Pratīhāra dynasty which became supreme after seizing the throne of Mahodaya. From other epigraphic records we already knew that Mahodaya, or Kanauj, was the capital of this dynasty from the time of Bhoja I onwards. But we did not know for certain where they were ruling before they established themselves at Kanauj. This grant now makes it certain that their original seat of power was Ujjain. The Jaina *Harivaṁśa*, as pointed out by Dr. Bhandarkar, strengthens the inference that the Pratīhāras were established at Ujjain and not at Bhilmal, as was hitherto supposed, before they transferred their capital to Kanauj. The document further informs us of the exploits of Dhruva (Dhārāvarsha), and his son Govinda III, also called Tribhuvanadhavala. In recounting the expeditions of the latter it mentions that this ruler encountered and defeated the Pratīhāra Nāgabhaṭa and Chandragupta, the ruler of Śrīpura or Sirpur in the Central Provinces and received the submission of two more princes, namely, Dharma and Chakrāyudha. This Dharma is the same as Dharmapāla, the Pāla king of Bengal and Chakrāyudha, the protégé of his, who obtained the sovereignty of Kanauj through him. It further alludes to his conquest of the Mālava, Kośala, Kaliṅga, Vaṅga, Ḍāhala and Oḍraka countries and mentions a small ruler called Mahārāja Śarva, whose principality lay on the banks of the Narmadā at the foot of the Vindhyas, with Śrībhavana as its capital. Other interesting information furnished by the document is to the effect that in ancient times an Indian king could temporarily resign his sovereignty and enjoy the life of a hermit or ascetic as was done more than once by Amoghavarsha. Leaving aside other details, it may be noticed here that the donor herein called Vīra-Nārāyaṇa is compared to a Gupta king in point of generosity. This Gupta king, Professor Bhandarkar surmises to be Skandagupta Vikramāditya of the Imperial Gupta dynasty. In support of his hypothesis he refers to the *Gāthāsaptaśati* of Hāla and to the Bhiṭarī Pillar Inscription alluding to the victory won by Skandagupta over his enemies, who, in his opinion, were the kinsmen of the Gupta emperor. But, inasmuch as the Bhiṭarī Pillar Inscription shows that the enemies referred to were the savage Huns, after vanquishing whom he went to see his mother, it would be dangerous to accept this surmise till other evidence is forthcoming to support it.

The four records dealt with by Rai Bahadur Hiralal throw considerable light on the history of the Bhañja dynasty of Orissa. Three of them were issued from Vañjulvaka, two by Netribhañjadeva, surnamed Kalyāṇakalaśa, and one by Mahārāja Vidyādharabhañjadeva, surnamed Amoghakalaśa. With the help of these documents together with some other records of the family the Editor has prepared a tentative genealogy of the Bhañjas and shown that the Bhañja kingdom in ancient days included almost all the tributary states of Orissa together with the northern portion of the Ganjam district, covering an

area of about 16,000 square miles. Special mention is to be made here of a highly interesting paper by Dr. Sten Konow on the so-called Takht-i-Bāhi inscription of the year 103. The record is written in the Kharoshṭhī alphabet of the Śaka variety and seems to have originally come from Shāhbāzgaṛhi. Dr. Sten Konow has given us a revised reading of the text and sought to show in a very convincing way that the year 103 cannot refer to the era instituted by Azes; since the word *Ayasa,* he asserts, cannot be the genitive of the name *Aya* (Azes) at all. He further says that everything we know from Indian tradition points to the conclusion that the Vikrama era was a national Indian era and ancient Indian ideas seem to be traceable in the oldest Vikrama-dates. The eras used in Kharoshṭhī inscriptions, on the other hand, are, he argues, partly framed after the model of the Macedonian calendar, which is evident from the occasional use of Macedonian month-names and from the habit of reckoning the days of the month from full moon to full moon, while the Indian calendar divided the months into two fortnights. According to him we must infer that the era or eras used in the Patika plate and in the so-called Takht-i-Bāhi inscription are of foreign origin and, if it is granted that Moga was still reigning in the year 78 of that era, and we meet with Gudufara in the year 103, it is difficult to avoid the inference that both records are to be referred to one and the same era; so that there would be only 25 years between the Patika plate and the so-called Takht-i-Bāhi inscription, or, in other words, between Moga and Gudufara. What happened, according to his view, was that, 'Sometime after the demise of Mithradates II in 88 B.C. a Śaka ruler of Seistān made himself independant, invaded the Indus country and established a new era. According to the *Kālakāchāryakathānaka,* the Jain Kālakāchārya applied to the Śaka rulers of Sagakula for assistance against king Gardhabilla of Ujjayinī, who had abducted his sister, and the result was that the Śakas made themselves masters in Ujjayinī where their rule, according to some well-known memorial stanzas, lasted four years. They were then ousted by Vikramāditya who established his own era.' The era thus established was, he thinks, the first secular era of Indian origin, the oldest certain instance of its use being in the Śoḍāsa inscription of the year 72. From the fact that the date portion of this record does not make any mention of the *paksha* but simply mentions the ninth day of the month, he infers, that the calendar was partly arranged according to the principles introduced by the Śakas. He further says that a new Parthian era was established one year before the date of the Patika plate by Azes, the first Parthian conqueror of the Kabul country and the western Punjab, and that the so-called Takht-i-Bāhi inscription is dated in the 26th year of that era. That would take us to the time 16 to 20 A.D. which would be a very likely date for Gudufara who is generally assumed to have come to the throne in 19 A.D.

Progress in the publication of South-Indian Inscriptions.

The fifth volume of the *South Indian Inscriptions* (*Texts*) Series, which had been passed for final printing in 1925-26, was actually published and issued

during the year under report. The manuscript of part iv of Vol. III of the Old Series has been sent to the press for being set up and the proofs of the first 30 pages of it have been examined. To complete Vol. VI of the Texts Series transcripts of 506 inscriptions, mostly in Telugu characters, were revised and sent to the press, and the volume is now in various stages of printing. This brings us to the end of the Madras epigraphical collection for 1899. The contents of the more important among these records have been noticed in the *Reports on South Indian Epigraphy* for the years 1897 to 1899. Mr. K. V. Subrahmanya Ayyar, who is now editing the texts of these inscriptions, brings to notice the following few points in connection with them.

'In the internecine wars that were waged during the reign of the Bāhmani king Muhammad Quli Qutb Shāh, the Hindu Chief, Aśvarāya *alias* Sarvappa, is one of the principal figures who seems to have been mentioned by Ferishta. What has been recorded by the Muhammadan historians is confirmed and to some extent enlarged on in a few inscriptions. In the year Śaka 1526, corresponding to the cyclic year Krōdhana, says a lithic record of Simhachalam, the chief Rājādhirāja Mahārāja Rājaśrī Aśvarāya Sarvappa, sent by Hajarat Mahamadu Khulli Kutubu Pāduśāha (Muhammad Quli), captured the three fortresses Koppalavārikōṭa, Vīrakōṭa and Enjerla, drove out Mukunda-Bāhubalēndra, paid a visit to Śrī-Kūrmam and, after making a *sarvamānya* gift to the god, Vaishṇavas, and Brahmans, proceeded to Simhādri, where, seeing that the grants made by former kings for offerings, etc., had fallen into disuse in spite of their having been once revived by king Mukundadēva-Mahārāja, he gave a village with all its income to the god and restored to their original grandeur the services in the temple. The account recorded in this epigraph is fully corroborated by an inscription found in the Kūrmanāthasvāmin temple at Śrīkūrmam, where the chief made a *sarvamānya* grant of the whole village of Śrīkūrmam to the temple.

'The inscriptions of Simhāchalam further reveal the names of some prominent religious teachers such as Akhaṇḍānanda-Śrīpāda, Varadagiri-Śrīpāda, Naraharimuni or Narahari-Śrīpāda, who appear to have been inspired by the religious activities of Naraharitīrtha, the great Mādhva teacher, philosopher and politician of the 13th century A.D. and the direct disciple of Ānandatīrtha-pūjyapāda, who propounded the *dvaita*-school. The Simhāchalam inscriptions show that Naraharitīrtha wielded enormous influence in the Āndhradēśa.'

Miscellaneous Epigraphical Work.

The following summary of the epigraphical work done in the different circles of the Archæological Department, and in some of the museums of India is based on the reports with which the officers concerned have supplied me.

Frontier Circle.—Mr. Hargreaves supplied to Dr. Sten Konow, in connection with the publication of his volume on the Post-Aśokan Kharoshṭhi inscriptions, numerous estampages and photographs of the epigraphs in the Peshawar Museum as also of others in private collections. For this purpose he had to undertake a special journey to Bannu to obtain impressions of the inscrip-

tion on the pedestal of a Buddha image now in the possession of a Punjabi regiment stationed there and another to Shahdaur in the Agror valley to procure estampages of the rock inscriptions at that place. Captain A. H. Barnes, I.A., of the Indian Political Department, presented to the Peshawar Museum a new inscription which was discovered at a place called Khazana about 4 miles from Mir Ali on the Idak-Spinwam road in the Tochi Agency. To judge from impressions sent to me a part of this document appears to be in Mongolian, but has not yet been deciphered. The rest of it is written in Sanskrit language and Śāradā alphabet. It appears to be dated in the Śāstra year 38, and mentions the name of a king which possibly reads Nayanachandra. A portion of this Śāradā inscription appears to be missing.

Eastern Circle.—The only epigraphical discovery made in the Eastern Circle during the year was that of two votive terra-cotta tablets bearing the figure of the Buddha in the *bhūmisparśa-mudrā* and the Buddhist creed written in characters of about the sixth century A.D. and a sealing with the Wheel flanked by two deer in the upper portion and a legend in characters of about the tenth century. The latter, the Superintendent thinks, was the seal of the community of monks at the monastery (*vihāra*) of Dharmapāladeva at Somapura, which is to be identified with the modern Ompur close to Paharpur temple. The former, *i.e.*, the tablets, he believes, support the surmise that the sculptures discovered at Paharpur in the basement of the main temple belong to the late Gupta period.

Mr. Dikshit supplied to Mr. Hem Chandra Goswami, President of the Kamrup Anusandhan Committee, Gauhati, estampages of two copper-plate inscriptions, one of which is said to be of the Assam king Indra Pāla and the other of Dharma Pāla, both recording grants of lands to Brahmans specified in them. The former, Mr. Goswami writes, was found by a 'cultivator in a village called Guakuchi in Kamrup. It consists of three leaves fastened together by a metallic ring attached to a ladle-shaped seal, in the hollow of which there is an image of an elephant with a superscription of the king underneath. According to it, Indra Pāla was the son of Purandar Pāla, who was the son of Ratna Pāla and grandson of Brahma Pāla. The other plate was found in the district of Nowgong, Assam, by a cultivator in the course of ploughing. It describes Dharma Pāla as the son of Harsha Pāla and grandson of Gopāla. Incidentally it gives the genealogy of Indra Pāla also, which is identical with the one given in the preceding document.'

Three sets of copper-plate grants and a stone inscription were brought to Mr. Dikshit's notice from the Bombay Presidency. The earliest of these inscriptions, he says, are the plates recently discovered at Sadalga in the Chikodi taluka of Belgaum district, which were issued by the Chalukya king Vinayāditya on the full moon day of Māgha of the Śaka year 614, also mentioned as the eleventh regnal year of the king. The place of the royal encampment was the village of Māsiyya on the southern bank of the Bhaimarathi river, identical with the Bhima of the present day. The identity of Masiyya with Māsnur in Sholapur district, close to which the Emperor Aurangzeb encamped, might be suggested

with some diffidence The donees of the grant were 51 Brahmans, whose names, *gotras* and shares are mentioned. The village granted was Kaviṭṭage (modern Kavatgi) in the Bāgenāḍu *vishaya*, and was situated on the northern. bank of the river Krishṇaveṇṇi (modern Krishṇā) between the villages of Paḍusili (modern Paḍsalgi) and Jannavāṭa (modern Janvāḍ). The locality of the villages referred to in the grant is the border of the Belgaum district, Jamkhandi State and Bijapur district.

Another set of copper-plates, now in the Bharat Itihas Samsodhak Mandal at Poona, came from the village of Bopgaon in the Poona district. It is a grant of the Chalukya king Vinayāditya, and is dated on the full moon day of Chaitra, the Saṅkrānti day in the Śaka year 640, mentioned as the 22nd regnal year of the king. The place of the king's encampment was Hatampura, the donee, Srī-Vachchhasvāmin (properly Vatsasvāmin) and the village granted, Nirgundi near Davilagrāma in the territory (*vishaya*) of Samagiri, which *cannot be identified.*

The third set of plates was brought from the village of Man in the Poona district, and refers to the time of Krishṇarāja I Akālavarsha of the Rāshṭrakūṭa dynasty. The occasion for the donation was the solar eclipse on the new moon day of Chaitra in the Śaka year 683, Hemalamba-*samvatsar* (of the Jovian cycle). The village granted was Bopakhalla in the Punaya (Punaka) territory, which must have been very close to the spot where the plates were found, as the river Muila (now known as Mula), mentioned as the southern boundary of the village granted, also runs to the south of the village Man. The discovery of a stone inscription has been reported from Mangalvedha near Pandharpur, District Sholapur. From an eye-copy of the inscription it appears to be a record of at least 17 lines in Mahārāshṭrī Prakrit verse and in characters of the 12th century A.D. The name of one Sankharāja, the younger brother of another chief, appears in one of the lines.

Burma Circle.—Mons. Chas. Duroiselle has kindly supplied me with the following summary of the very interesting epigraphical work done in his circle during the year 1926-27.

"Among the epigraphical discoveries made in the Burma Circle during the year under report the most important is a manuscript containing twenty gold leaves each inscribed on one side, placed within two covers of the same metal. It was unearthed at Hmawza (Old Prome) in the course of excavations conducted there during the year, and found together with many other objects of a miscellaneous nature inside the relic chamber of an old brick mound.

"The writing on the leaves is in characters of an early South-Indian script of the Canara-Telugu type closely resembling those on the Maunggun plates, which were discovered at a place near Hmawza in 1897 and the originals of which are now in the British Museum, and those on the fragments of a stone found at Bawbawgyi pagoda, Hmawza, which, on palæographic grounds, have been assigned to the V-VIth century A.D.

"The manuscript contains extracts from the *Abhidhamma* and *Vinaya Piṭakas*, and constitutes, together with those mentioned above, the earliest proofs

of Pāli Buddhism in Burma. It is expected that the contents of the manuscript will, after a careful study, be published with illustrations in a volume of the *Epigraphia Birmanica*. The Ms. begins on the first page with an extract giving the chain of causation (*Paṭichchasamuppāda*) and ends on the last page with '*Itipi so bhagavā araham sammāsambuddho*, etc.' enumerating the qualities of the Buddha. This manuscript may be assigned to the VI-VIIth century A.D.

"At the same site were unearthed some thin gold and silver plates with writing in Pyu in the same characters as those mentioned above, and also a stupa bearing inscriptions mostly in the same dead language. For want of a fuller vocabulary than we now possess, these inscriptions have not yet been properly read. The former were found in caskets and bowls together with images of the Buddha and other votive objects, and probably record the names of donors of those objects. They contain only one line each, but in most cases there is another line of inscription below each containing a few letters at intervals in Brāhmī characters, as in the case of some urn inscriptions found also at Hmawza, the object of which has not yet been ascertained. The inscriptions on the stupa give the names of the Buddhas and disciples embossed thereon, and perhaps also the names of the donors of the object. The latter supply two names which may prove to be very interesting. They are Srī-Prabhuvarma and Srī-Prabhudevī, and if they turn out to be the titles of the king then reigning at Old Prome and of his queen, they will enable us to throw light on a new dynasty of kings at Old Prome with their names ending in '*varman*,' of which the Burmese chroniclers are unaware.

"The other epigraphical discoveries consist of a few short inscriptions each incised on the obverse and reverse faces of terra-cotta votive tablets, and around the pedestals of Buddha images. They are in Pyu, Burmese and Nāgarī characters and range in date from about the VI-VIIth to the XIIth century A.D. The languages in which they are written are Pyu, Talaing, Burmese, Pali and Sanskrit; in most cases they consist of the Buddhist creed (in Sanskrit or Pāli) and of dedicatory records (in Pyu, Talaing, Burmese or Pāli). The latter, belonging to about the XIth century A.D., and mostly discovered at Pagan in the course of excavations conducted there during the year, are important in that they corroborate to some extent the statements made in the Burmese chronicles as to certain events that happened at that time. Such are the sack of Old Prome and Thaton, the political and religious intercourse between Burma and North-Eastern India, and the foundation of pagodas and temples by the then reigning king, Anorata (1044-1077). Again, those belonging to about the XIIth century, especially those in Burmese, are no less important for the light they throw on the history of the Burmese language; for, short as they are, they contain many archaic words and forms and meanings now long fallen into oblivion.

"Estampages were procured of inscriptions on two stone slabs, both discovered at Pagan. One of them, written on two sides of the stone, is much worn and, except for a few words, nothing much can be made out of it. The other is fragmentary and records the foundation of a temple the name of which

is given as 'lemyethna.' It contains a date, but it cannot be read, being much worn. The epigraph is in Burmese, and on palæographical grounds it may be assigned to the XII-XIIIth century A.D. This inscription has now been placed in the Museum, Pagan."

Southern Circle.—As to the epigraphical work done in the Southern Circle, Mr. Venkoba Rao reports that 155 villages were visited by him and his staff, from which 633 inscriptions were copied, but that he received only four copper plates for examination during the year. A detailed survey of the whole of the Mayavaram taluk and of some parts of the Kumbhakonam and Kalyandrug taluks in the Tanjore and Anantapur Districts has been completed. The most notable epigraphical discovery was made at Nāgārjunikoṇḍa, where several Brāhmī inscriptions of the Ikhāku dynasty were unearthed. A resumé of all these documents has been inserted in the beginning of this summary. Next in importance are three Brāhmī label inscriptions engraved at the pillow end of the stone beds carved within a natural cavern on the top of the Uṇḍānkallu hillock of the Nāgamalai chain towards the south of Vikkiramangalam in the Madura district. Similar inscriptions attributable to about the 3rd century B.C. had already been copied in several caverns in the Madura and Tinnevelly districts. The labels at Nāgamalai give the names of Vēṉ-Atāṉ, the son of Andai-Pikāṉ, Vēṉ-Kuviraṉ and Podilai-Kuviraṉ, who were possibly the occupants of these caverns.

A few records copied in the Cochin State are dated in the reigns of two Chēra kings, Kōdai Ravi and Rājaśiṅga-Perumānaḍigaḷ. Of these, the former is known from the inscriptions copied at Tripūṇitura, Taḷi and Calicut. The latter figures for the first time as an independent ruler in a record from Tāḷakkāḍ and may be identical with the Chēramāṉ Rājasiṁha, a vassal of king Rājendra-Chōḷa, who built the Vishṇu temple at Mannārkoil in the Tinnevelly district in the name of his suzerain. The Vaṭṭeḷuttu script used in the first half of the inscription, however, does not support this hypothesis since it is earlier by about two centuries. This inscription refers to an assignment of land made by the *Ūrār* of Tāḷaikkāṭṭūr to some merchants, two of whom are said to have belonged to the Maṇigrāmam community for founding a market (*pīḍigai*) and to the exemption granted to them from the payment of certain taxes. Though this record has been found in the compound of a church, there is nothing in it to show that it refers to concessions made to Christian merchants in particular. It may be noted, however, that among the boundaries of the land mentioned in it occur the names Chiṟupaḷḷi and Kala(rai)ppaḷḷi, which according to modern connotation, Mr. Venkoba Rao says, would denote churches.

The collection of this year includes two inscriptions of Parāntaka and Rājarāja I, which were found in the Tanjore and Tinnevelly districts. An inscription from the hamlet of Paṭṭīśvaram (Tanjore district) dated in the 7th year of Parakēsari Rājendra-Chōḷa I (1019 A.D.) says that the temple with which it is connected was erected as a memorial shrine (*Paḷḷippaḍai*) for (Rājarāja's) queen Pañchavaṉmādēviyār. This place is close to Paḷaiyāru also known

as Muḍikoṇḍa-Śōlapuram which was a secondary capital of the Chōḷas. An inscription from the Mayavaram taluk is dated in the 14th year of Karikāla-Chōḷa, 'who took Madura and Īlam', and may be assigned to Rājādhirāja II. Another record from the same taluk lays down rules for the election of members to the assembly of the village Kulōttuṅgachōḷan-Taninäyaka-chaturvēdimaṅgalam in Rājādhirāja-vaḷanāḍu. The election mentioned in this inscription was held in the 7th year of the reign of a (Chōḷa) king Tribhuvanachakravartin Kōnērinmaikoṇḍāṇ. At the instance of two officers of the king the rules regarding the rights and privileges of members were published. Only those Brahmans who were competent, learned, and above forty years of age and who had not sat in the *sabhā* for the previous ten years, could stand for the election. Those who had no relationship with the members of the assembly for the previous five years had to be chosen and the relations of the then present members were to be eliminated for the succeeding five years. The people were protected from undue influence that might be exercised by these members by the ruling that those who were guilty of corruption and those who molested the other Brahmans of the town, the Brahman *sādhus* as well as the agriculturist, and had failed to pay their taxes, were punishable according to the gravity of their offences. A hitherto unknown later Chōḷa chief called Gururāja Rudradēva-Chōḷa Mahārāja, who must have been ruling, apparently, as a Vijayanagara subordinate, is brought out by a record from Kumbhakonam dated in Saka 1476 (1554 A.D.).

The villages in the Ramnad and Tinnevelly districts have yielded a large number of Pāṇḍya epigraphs in addition to five inscriptions of the Travancore kings Udayamārttāṇḍavarman (circa 1534 A.D.) and his co-regent Ravivarman Kulaśēkhara. Of these, 10 are in Vaṭṭeluttu characters and belong to the early Pāṇḍya kings Māṟañjaḍaiyaṉ, Śaḍayamāṟaṉ and Vīra-Pāṇḍya. The other records are those of the mediæval kings Kulaśēkhara, Sundara-Pāṇḍya and Vīra-Pāṇḍya. The remaining ones, which range in date from Śaka 1356 to 1493, relate to the later Pāṇḍyas of Tinnevelly who were subordinate to the Vijayanagara viceroys. An inscription from Tiṭṭāṇḍatānapuram in Ramnad dated in the 11th year of king Vīra-Pāṇḍya (A.D. 1264) is of interest as it records an agreement by the Añjuvaṇṇam, Maṇigrāmam, the Sāmanta Paṇḍāsāli and other residents of the village to levy certain taxes on the articles of merchandise and to complete from the proceeds the renovation of the *maṇḍapa* in front of the local temple which had been left unfinished. One of these inscriptions states that Kulaśēkhara (*circa* A.D. 1268) constructed the walls of the temple at Tinnevelly from the booty obtained from the Kēraḷa, Chōḷa, and Hoysaḷa kings; while another epigraph, which appears to belong to the same ruler, *i.e.*, Kulaśēkhara and is dated in his 34th year, records the information that the temples of Vaḍaperuṁkōyil-Uḍaiyār and Śūḍikkoḍutta-Nāchchiyār at Śrīvilliputtūr were to be considered as asylums for the refugees from the surrounding seven *nāḍus* enumerated in it. A curious Tamil record from Śrīvilliputtūr, which is dated in Śaka 1375 (A.D. 1453) and is shown as issued by the god Raṅganātha himself, records the gift of the village Tiruvaran-

ganallūr to the temple of Śūḍikkoḍutta-Nāchchiyār, the well-known Vaishṇava saint and authoress. Possibly it was engraved in the time of Tirumāliruñjōlaininṟāṉ, one of the Māvali-Vāṇādarāya chieftains who ruled near Madura after the decline of the mediæval Pāṇḍyas. The record contains quotations of several phrases and expressions from the *Nāchchiyār-Tirumoḻi* or the decade of hymns which the said holy authoress composed in praise of 'her divine lover Raṅganātha.' A late record from the same place contains some information about the caste-disputes between the class called Dēvēndra-kuḍumba and the Paṟaiyar in regard to certain social rights.

In the Kalyandrug taluk of the Anantapur district 14 inscriptions were copied. Two of these were issued during the time of Iruṅgōḷa-Chōḷa-Mahārāja and his son Mallidēva-Chōḷa who were ruling from Gōvindavāḍi as the subordinates of the Western Chāḷukya king Vikramāditya VI. A record from Kundurpi in the same taluk, dated in Śaka 1262, belongs to the Hoysaḷa king Vīra-Ballāḷa, the son of Vīra-Narasiṅga, who had his headquarters at Dōrasa-mudra. It mentions a *Mahāsāmanta* of the king by name Bommaya-Nāyaka, son of Gaṅgaya-Nāyaka, governing the Niḍugala-rājya, and of Hosa-Hampeya-paṭṭaṇa (*i.e.*, the new town of Hampe), the capital of the Vijayanagara empire.

Most of the inscriptions secured from the Ganjam district belong to the period of the Eastern Gaṅga king Anantavarmadēva Chōḍagaṅgadēva (A.D. 1073), of whom the latest regnal year given in the records is the 67th. They reveal the names of some subordinates of Chōḍagaṅga and of his relations. A fragmentary inscription at Rāyavaram in the Vizagapatam district, which is written in archaic Telugu, mentions the temple of Narēndrēśvara, which was probably named after the Eastern Chālukya king Narēndramṛigarāja in commemoration of one of the famous 108 battles he fought with his enemies. Of the later kings of this dynasty an inscription of Vishṇuvardhana Vijayāditya, which comes from the Godavari district, mentions his queen Mailāradēvī, who was the daughter of Āsanṭi Sūraparāju.

Three inscriptions from the South Kanara district copied in the year reveal the names of two Āḷupa kings Vīrapāṇḍya Āḷupēndra (Śaka 1184) and Vijayadēva Āḷupēndra who were ruling from Bārahakanyāpura (Bārakūr). Evidently they were the ancestors of Sōyidēva (Śaka 1245), who is known to us from other records of Bārakūr. From a number of inscriptions of the Vijayanagara kings copied at the same locality it is apparent that the Āḷupa kings lost their possession of the Bārakūru-rājya and that it became a Vijayanagara principality with its own governors. Two inscriptions of the Vijayanagara dynasty secured from Kōkaṭam in the Cuddappah district, which belong to the time of king Kṛishṇarāya, supply the information that the village had been granted as a *sarvamānya* by the emperor to his court poet Alasāni-Peddayaṅgāru, son of Alasāni Chokkayaṅgāru. Of a few inscriptions belonging to the Nāyakas of Tanjore one from Kumbhakōṇam which is dated in Śaka 1551 states that Gōvinda-Dīkshita, the *Pradhāni* of Raghunātha-Nāyaka, made some grants to the *maṭha* of Sāraṅgasvāmiyār, the agent of the Periyamaṭham there.

Gōvinda-Dīkshita, the famous minister who served under the three Nāyaka kings Chevvapa, Achyuta and Raghunātha, was, we know, a great authority on *Mīmāṁsā* as well as *Vēdānta* and was the author of several Sanskrit works. Another inscription from the same place, which belongs to the time of Chevvappa, reveals the existence of a temple of the Buddha at the village of Tiruviḷandurai near Kumbhakōṇam as late as the 16th century. The temple is said to have been dismantled when a channel was dug, but restored afterwards.

Indian Museum, Calcutta.—The only inscription acquired by the Archæological section of the Indian Museum, Calcutta, during the year under report is the copper-plate of Śubhakara which has already been published by Mr. R. D. Banerji in the *Epigraphia Indica.*[1]

Lucknow Museum.—The Curator reports that only one copper-plate inscription was added to the epigraphical section of the Provincial Museum at Lucknow. It is a grant of the Gāhaḍavāla king Gōvindachandra of Kanauj and is dated on the 15th day of the dark half of Phālguṇa of the (Vikrama) Saṁvat 1184. The record is being published by Mr. N. C. Mehta in the *Epigraphia Indica.*

Ajmer Museum.—Rai Bahadur Gaurishankar H. Ojha has made two or three very important epigraphical discoveries this year. He has recovered some of the missing portions of the well-known Ghosūṇḍī inscription of the 2nd century B.C. and discovered two other very valuable records which are perhaps the earliest inscriptions yet found in Rājputāna. One of the fragments of the Ghosūṇḍī inscription now found, supplies the words '*Sarvatātena Aśvamedha*', which evidently form the end of the first line of the record and enable the initial letter of its second line to be restored as *ya*, and the whole expression as '*Sarvatātena Aśvamedhayājinā.* It is thus apparent that Sarvatāta, the son of Gojāyana and Pārāsārī was the performer of an Aśvamedha sacrifice. Another fragment of the same inscription containing the word *sarveśvarābhyām*, Mr. Ojha says, is preserved in the Udayapur Museum, and supplies the missing portion of the second line of the same inscription. Of the other two old inscriptions examined by him, both incised on a sacrificial pillar standing in a lake at Nandsa in the Sahada district of the Udayapur State, one is of special palæographical value. It is dated on the 15th day of the bright half of Chaitra of the *krita* (passed) year 282: *Kritayordvāyorvvarshaśatayordvyāsītayaḥ 200 80 2 Chaitra* .. and records that a *shashṭirātra* sacrifice was performed by one Śaktiguṇaguru. There are 6 lines in it which run from the top to the middle of the pillar but their lower portions are very much mutilated. The inscription is written in characters of the 3rd century A.D., which resemble those of the Junāgaḍh inscription of Mahākshatrapa Rudradāman. The date is given in words as well as in numeral symbols. The form of the symbol for 200 in the present inscription was unknown up to this time. The year in which it is dated, belongs to the Mālava-Vikrama era and corresponds to 225 A.D. The other record is engraved on the same pillar but is a few months later. The script, however, in which it is written is

[1] Vol. XV, p. .

similar to that of the preceding inscription. It is dated on the 15th day of Chaturmāsya of the year 282 of the same reckoning. Its purport is identical with that of the preceding record. Here the date is given only in numerical symbols and is preceded by the word *krita*, which shows that the year of the record was 'a passed one.' The remaining 9 records examined in the year range in date between A.D. 1085 and 1573. Of these the earliest appears to be the one engraved on a pillar in the Śiva temple at Akola in the estate of Kanor in the Udayapur State, which is dated on the 12th day of the dark half of Mārgaśira of the Samvat year 1142 (A.D. 1085). The inscription on the pedestal of a Jaina image found at Walicha in the same estate of Kanor is dated Saṁvat 1167 (A.D. 1110) and records the setting up of an image of Munisuvrata, that is, the image on which the epigraph is incised, by one Āsapāla, son of Puñjaka of the Naigama family which had migrated from Chitrakūṭa (Chitor). The image was set up under the advice of [Suvakīrti], the successor of Āchārya Sahasrakīrti of Nanditaṭa-gachcha. The Ghaghasā inscription, which is now preserved in the Udayapur Museum and belongs to the time of Rāwal Tejasiṁha of Mewār, is another record which Mr. Ojha examined in the year. It is dated Sunday, the first day of the dark half of Kārttika of the Saṁvat year 1322 (A.D. 1265), and records that Mahājanaratna of the Dindu family built the well (*vāpī*) where it was originally found. The *praśasti* was composed by Ratnaprabhasūri, pupil of Bhuvanachandrasūri of the Chaitra-gachchha but written by his pupil Pārśvachandra. It was engraved by the artist Keḷisiṁha. The inscription engraved on a pillar of the temple of Mātājī at Dariba about 10 miles from Sunwār in the Udayapur State is dated Saturday, the 10th day of the dark half of Jyeshṭha of the Saṁvat year 1356 (A.D. 1299). It records the gift of 6 *drammas* to a temple by Karanā and Sohaḍa when Mahārājakula (Maharawal) Samarasiṁhadeva, whose chief minister was Nimba, was ruling Medapāṭa, *i.e.*, Mewār. Another inscription on the said pillar is dated Wednesday, the 5th day of the bright half of Māgha of the Saṁvat year 1359, and records that the same amount, *viz.*, 16 *drammas*, was presented to the temple by certain persons when Mahārājakula Ratusiṁha was the ruler of Medapāṭa, with Mohanasīha as his chief minister. This is the only known inscription of Rawal Ratusiṁha. The inscription engraved on a slab in the temple of Kalyāṇarāījī at Diggi in the Jaipur State belongs to the time of Rāṇā Saṅgrāmasiṁha (of Mewar) and is dated on the 13th day of the bright half of Jyeshṭha of the Saṁvat year 1584 (A.D. 1527). A vernacular inscription now preserved in the Udayapur Museum and belonging to the time of Mahārāṇā Pratāpasiṁha of Mewār is dated Monday, the 5th day of the bright half of Jyeshṭha of the Saṁvat year 1630 (A.D. 1573), and chronicles certain grants to a Brahman mentioned in it. The remaining two records are fragmentary. One is dated in the Saṁvat year 1556 (A.D. 1499) and belongs to the time of Mahārājādhirāja Rāṇā Rāyamalla of Chitorgarh. It names several Jaina āchāryas, paṇḍits and predecessors of Rājasiṁha, the minister of the said ruler. The *praśasti* was composed by Vimala, the pupil of Upādhyāya Sādhuharsha but written by Sādhu Rājaśīla and engraved by Sūtradhāra Chhitar, the

son of Isar. The other inscription belongs to the Jaina *kīrti-stambha* at Chitor, and records that it was erected by Jijāka, son of Sā(Sāha) Nāya of the Bhagerwāl caste. Both of these fragments are preserved in the Udayapur Museum.

MOSLEM EPIGRAPHY.

By Mr. G. Yazdani.

During the year under review a number of the *Epigraphia Indo-Moslemica* was published and another is under compilation containing several articles on the inscriptions of the Deccan and the Central Provinces. The most important of these records relate to the reign of Ghiyāthu-'d-Dīn Tughlaq and, his illustrious son, Muḥammad b. Tughlaq and throw light on the various expeditions led to the Deccan during the second and third decades of the 14th century. These inscriptions are also important from epigraphic and literary points of view, presenting us as they do with authentic specimens of the styles of writing and composition of the period.

This number also contains an article on the Moslem inscriptions of Paithan (*Pratishṭhāna*), which remained a flourishing commercial town until the 17th century. There are several Niẓām Shāhi and Mughal buildings at the place and the inscriptions help us to fix with certainty the dates of these monuments. The script of these writings is *Naskh* and the language Persian.

Mr. Hamid Quraishi has contributed to this number two articles, one on the inscriptions of Multan and another on those of Asīrgaṛh (Nimar District. C. P.). In the former Mr. Hamid has studied almost all the records of Multan and arranged them in their historical and epigraphic sequence. The article on Asīrgaṛh is important as throwing light on the history of the Fort. Thus, an inscription of the reign of Akbar reads as follows:—

> "The Fort of Asīr was conquered on the 6th of the month of Baihman in the Ilāhī era 46, corresponding to the 22nd of Rajab, 1009 H. On the 24th of the same month (Baihman) which corresponded to the 8th of Sha'bān, His Majesty, the Khaqān, the shadow of God, Jalālu-d-Dīn Muḥammad Akbar Bādshāh honoured the place by his presence .... The composer and writer of this inscription is Muḥammad Ma'ṣūm of Bhakkar, son of Sayyid Ṣafā'ī of Tirmiz, related on his mother's side to Sayyid Sher, son of, Baba Ḥasan Abdāl of Sabzwar, who is buried at Qandhar."

Students of Indian history are familiar with the name of Muḥammad Ma'ṣūm; but it may be interesting to note that his relation to Baba Ḥasan Abdāl, upon which he prides himself, is not recorded in any contemporary work.

SECTION IV.—MUSEUMS.

INDIAN MUSEUM, CALCUTTA.

By Rai Bahadur Ramaprasad Chanda.

All Sanskrit, Arabic, Persian and other inscriptions were originally exhibited in the corner room of the main Museum Building to the east of the Gupta gallery which was, therefore, known as the Inscription Gallery (Anderson, *Catalogue and Hand book of the Archæological Collections in the Indian Museum*, Part II, p. 365). A large collection of carved architectural pieces belonging to Muhammadan monuments of Gaur and Agra was also exhibited on a platform in the middle of the same room. In 1921, when the scheme of reorganisation of the galleries of the Archæological Section, which has since been executed, was first proposed, the Director General suggested that one separate room or gallery should be provided for the Moslem antiquities. In the year under review the Sanskrit and other non-Moslem inscriptions have been transferred from the old Inscription gallery to a pair of bays of the New Hall adjoining the Coin room, the platform in the middle of the gallery has been removed, and the Arabic and Persian inscriptions, numbering 51, and the carved architectural pieces from Muhammadan monuments have been displayed along the walls and given suitable labels. Enamelled and carved bricks of the Muhammadan period previously exhibited in the New Hall have been transferred to this newly organised Moslem gallery and are now exhibited in wall cases. Some of the minor Moslem antiquities including *farmans* and old sale deeds have been displayed in a pair of table cases in the centre of the room.

Antiquities other than coins acquired and registered during the year number 158. Among these the most notable are the sculptures and the *farmans*. The collection of later mediæval sculptures from Bihar has been enriched by four fairly well preserved specimens. One of these (Plate XLIII,*a*) is an inscribed image of the Buddhist Tara with two stupas carved on the back (17″ × 10′) from Guneri in the Gaya District. The inscription on the base of the image gives the name of the donor as Kevartaka, son of Bhadra, and the form of the letters of the inscription as well as the style of decoration indicate that it is a work of the ninth century A.D. This image has been lent for exhibition by the Superintendent of Archæology, Eastern Circle. To the same age is to be assigned also the image of the pair, Uma-Mahesvara (Plate XLIII,*b*), Siva and his wife Uma (3′ 1″×1′ 8″), which agrees in the main with the description given in the Matsya Purana (260, 11-19). The figure of Uma, naively looking on the face of her consort (*haravaktravalokini*), is lively and charming, and the pose of Siva, who, according to the legend, has been persuaded by Uma to give up ascetic practices (*tapas*) and marry her, is full of dignity. The face of the god reflects the spirit of detachment befit-

ting one who has long led the life of an ascetic. The Superintendent of Archæology, Eastern Circle, has also lent for exhibition a small image ($9\frac{1}{2}''\times6\frac{1}{2}''$) of Buddha from Guneri, wearing a crown and necklace and seated in the earth-touching attitude. The form of the letters used in inscribing the Buddhist creed on the base of this image enables us to assign it approximately to the 9th century A.D. To the next century belongs another Buddha image ($2'\ 5''\times1'\ 2''$) which evidently comes from Bihar. It is of exactly the same type but with the addition of the thunder weapon below the lotus throne (Plate XLIII, *c*). On the upper part of the back slab to the proper right of the main figure of Buddha is carved a seated image of Buddha receiving a bowl of honey offered by a monkey at Vaisali, and to the left another seated figure of Buddha preaching the first sermon at Sarnath. Below, to the proper right, is a standing image of Buddha wearing a crown and necklace; and, to the left, another standing image of Buddha of the same type taming the elephant Nalagiri, a miracle performed by Buddha at Rajagriha. The votive inscription on the base gives the name of the donor as Karmmaditya, and below is engraved another name, Sri Dharmmavijayadatta, probably the preceptor of the donor.

To the growing collection of mediæval sculptures from Bengal proper three typical images have been added during the year. The earliest is a black basalt image ($2'\ 10''\times1'\ 2''$) of the man-lion (Narasimha) incarnation of Vishnu (Plate XLIII, *d*) engaged in tearing out the entrails of the demon Hiranyakasipu. The style of modelling and decoration indicates that it is a production of the later Gupta period (7th or 8th century A.D.). This Narasimha image was found at Sarishadaha, District 24-Perganas, Bengal, and has been presented to the Indian Museum by Mr. Kali Das Datta, Zamindar of Majilpur in the same District. To the liberality of another Zamindar of the same District, Kumar Bhupendra Nath Mukherji of Uttarpara, the Museum owes a pair of Garuda figures ($2'\ 6\frac{1}{2}''\times1'\ 10''$) seated back to back in a semi-kneeling posture (Plate XLIII, *e*). This pair of Garuda figures served as the capital of a column that stood in front of a temple of Vishnu. The third image from Bengal is a black basalt figure of the serpent goddess Manasa ($1'\ 6\frac{1}{2}''\times10''$) found in the Birbhum District. She has on her lap her son Astika, a saint in the guise of a serpent; to her proper right is seated her husband, the sage Jaratkaru, and to her left, her brother Vasuki.

Raja Ram Chandra Deva of Puri has presented three typical sculptures from Orissa. One of these is a figure ($2'\ 2''\times1'\ 1''$) of the Varaha (Boar) incarnation of Vishnu of grey granite. Figures evidently of gods and goddesses, including one of a fish, are carved on the body of the Boar. This image probably dates from the 7th or 8th century A.D. The other two sculptures presented by the Raja are:—a female figure ($3'\ 11''\times1'\ 1\frac{1}{4}''$) at her toilet looking into a mirror (Plate XLIII, *f*), and a pair of lovers ($5'\ 3''\times2'\ 2''$). Both these sculptures evidently come from Konarak and are assignable to the 13th century A.D. The Rev. Canon Pearce presented a chlorite image, which also probably comes from Konarak and is assignable to the same epoch (13th century A.D.). It is a two-armed image ($3'\ 2\frac{1}{2}''\times1'\ 8\frac{1}{2}''$) seated

in meditation (Plate XLIII, *g*) Unfortunately both the fore-arms with their attributes are lost. But a garland hanging below the knees and closely resembling the *vanamala* or the garland of wild flowers of Vishnu, seems to indicate that it is an image of Vishnu. The back slab of this image is decorated with a cinquefoil arch, a feature that distinguishes the famous door lintel with the images of the nine Grahas at Konarak (Bishen Swarup, *Konarak*, Plate XII). The resemblance of this image to the images of the nine Grahas carved on the Konarak lintel does not stop with the cinquefoil arch. There is also a very close resemblance in the style of modelling, in the arrangement of the drapery and in other details.

Miscellaneous antiquities acquired during the year include a votive stupa (height 19½″) of sandal wood from Tibet (Plate XLIV, fig. 8). The Government of Bengal has presented a collection of 80 brass utensils recovered from Chandra Bil in the Faridpur District, Bengal, and acquired as Treasure Trove. *It is difficult to determine the age of these utensils with the materials now* available, but, as Plate XLIV; fig. 9 will show, the collection includes forms that are no longer common.

Among Moslem antiquities other than coins acquired during the year the most important is the collection of Arabic and Persian documents including *farmans*, *sanads*, *parwanas*, etc., numbering 37 (see list in Appendix B). Two of these documents deserve special notice. One is a *fatwa* or edict on the interpretation of the Muhammadan Law of Divorce compiled by Ibrahim, son of Ismail, son of Muhammad, son of O'mar, dated the 21st of Rabi' I. H. 849 (27th June 1445). The document bears a seal which has been read by Mr. Yazdani as follows :—

"Sadr-ul-Islam Sadr-i-Jahan Sultan Bahlol Al'Adil."

"Chief of Islam, Chief of the world, Sultan Bahlol, the Just."

This Bahlol was no other than Bahlol Lodi who ascended the throne of Delhi as Sultan in 1448 A.D. He entered the service of Sultan Muhammad Shah of the Sayyid dynasty of Delhi (1433-1443 A.D.) and distinguished himself in the wars against Sultan Mahmud of Malwa. Later he revolted against his master and tried to seize the throne of Delhi. On the death of Sultan Muhammad in 1443 A.D. his son Alim Shah (Alauddin) succeeded him. Though Bahlol Lodi swore allegiance to the latter, he continued to aspire to the throne and at last succeeded in seizing it (1448 A.D.) Sultan Alim Shah acquiesced in the usurpation and wrote as follows :—

"The deceased king, Sultan Muhammad Shah, called you by the name of son. There is neither fruit nor profit for me in sovereignty; living in solitary contentment at Badaon I resign the empire of Delhi to you."[1]

The seal in this document shows that Bahlol Lodi, though nominally holding the office of the Chief Ecclessiastical Officer (Sadr-ul-Islam Sadr-i-Jahan), had already assumed the title of Sultan in 1445 A.D.

The second document is a despatch of the Emperor Shah Jahan addressed to Rashid Khan, Governor of Khandesh, dated the 25th Ramadan, 1047

[1] Ranking. *Muntakhabu-t-Tawarikh*, Vol. I, p. 401.

A.H. (7th March, 1639 A.D.), which throws considerable light on the mode of administration of a Subah of the Mughal empire. The following abstract of the document has been prepared by Maulavi Shamsuddin Ahmad, Assistant Curator of the Archæological Section of the Indian Museum:—

"Farman of Abu'l Muzaffar Shihabuddin Muhammad Shah Jahan Badshah Gazi, the second Lord of the Conjunction.

Faithful Rashid Khan is informed that his two letters, one dated the 8th Shaban and the other dated the 9th Ramadan, have been submitted to His Majesty. His Majesty is well aware that he (Rashid Khan) has restored peace and order in the Subah of Khandesh. His Majesty is now free from anxiety regarding the Kols dwelling on the Tapti and the Bhils dwelling in the hill tracts. God willing, in a short period he (Rashid Khan) should prepare the draft rent-roll and then proceed to punish the mischief-makers and the Bhils of the hill tracts of the District Sarai Bahari. Up to date he (Rashid Khan) has remitted to the Court Rs. 1,22,779 derived from miscellaneous sources. His Majesty blesses the loyal one (Rashid Khan) who has severely punished the said mischief-makers. It was at one time reported that the affairs of the Subah were in a state of confusion. The Shahzada had reported that the road from Burhanpur to Kararah was quite unsafe for travellers. Therefore Rashid Khan was warned by His Majesty. If Rashid Khan considers any of his subordinate officers incompetent, he should nominate to his post whomsoever he thinks fit and His Majesty will forthwith issue letters of appointment. His Majesty will duly reward Mirza Khan, the Jagirdar and Darab Khan, the Faujdar, whose services are commended by Rashid Khan."

In his biography of Rashid Khan, surnamed Ansari, the author of the Maasir-ul-Umara (Vol. II, p. 250) refers to his suppression of the disturbances created by the hill tribes in Khandesh.

43 Non-Muhammadan and 78 Muhammadan coins have been added to the Cabinet during the year (see the Lists in Appendix B). In the non-Muhammadan group are a few unique coins hitherto unrepresented in the Cabinet. From the fifth century B. C. onward the Kabul valley and the Punjab formed part of the Persian (Achæmenian) empire and Alexander the Great annexed them along with other parts of that empire. These provinces nominally continued under the Macedonians till Seleucus I of Syria ceded them to Chandragupta Maurya about 305 B. C. During these three centuries coins issued by the Great Kings of Persia and their Satraps in the East and afterwards by Alexander the Great and the Macedonian Satraps must have been in circulation in the Kabul valley and the Punjab, at any rate until those areas came into the possession of Chandragupta Maurya. We may even go further and assume that the Persian Satraps and their Macedonian successors in the Indian Provinces must have issued coins of their own in imitation of the Achæmenian and Greek coins. This view is adopted by Barclay Head in connection with Greek coins of Athenian and Macedonian types acquired from Rawalpindi in the Punjab and assignable to the period between Alexander's

invasion of India in 326 B. C. and the adoption of the royal title by Seleucus in 306 B. C.[1] Dr. G. Macdonald, while admitting that the *sigloi* or the silver coins of the great kings of Persia were in circulation in North-Western India, refuses to believe that there ever was any real demand for the gold *darics* of the Persian kings on the ground that the value of gold relatively to silver was much lower in India than in Persia and that very few *darics* have yet been discovered in India.[2] Dr. Macdonald also refuses to believe that Macedonian silver tetradrachms were ever in circulation in India and holds that the only specimen that emanates from Rawalpindi must have found its way in recent times to India from Central Asia.[3] A find however of a tetradrachm and a drachm of Alexander the Great and a tetradrachm of Philip III in the Bhir Mound at Taxila in 1924-25 indicates that Macedonian coins were in circulation around Taxila, and it is going too far to assume that every double *daric* and every gold stater in the possession of the coin dealers of Rawalpindi necessarily comes from beyond the Hindukush.

Persian *darics*, Macedonian coins and even coins[4] of the early Seleucid kings of Syria were hitherto unrepresented in the coin cabinet of the Indian Museum. But in the year under review three such coins have been purchased on the recommendation of Pandit B. B. Bidyabinod, Assistant Curator. These are :—

(1) Gold coin (*daric*) of an unknown Satrap of the Persian (Achæmenid) empire. Weight 131·3 grains.

Obv. Head of ruler wearing *kyrbasia*, hood or cap with three lappets or flaps, of which those on sides cover the ears. Legend in Aramaic characters.

Rev. Quadriga drawn by four galloping horses. Legend in Aramaic characters. (Plate XLIV, fig. 1.) From Rawalpindi.

A coin exactly of this type with the same Aramaic legends is reproduced in Dalton's *Treasures of the Oxus*, 2nd edition, p. xxxvi.

(2) Stater of Seleucus I issued before 306 B. C. On the obverse is the head of Alexander the Great wearing elephant's skin with tusks and upraised trunk. The part of the skin tied round the neck ends in claws like those of a lion and indicates that the artist who designed the coin was very imperfectly acquainted with the elephant. The elephant head-dress on this coin may be compared with that of the Indo-Bactrian king Demetrius I and of Alexander the Great on the coin of Ptolemy I of Egypt (323-284 B. C.). On the reverse of this coin, winged Nike, standing, holds a wreath in her outstretched right hand and a staff in her left hand; below the right hand of Nike in the field, is the head of horned horse and below the figure of Nike △ (Plate XLIV, fig. 2). The head

[1] Barclay V. Head. "The Earliest Græco-Bactrian and Græco-Indian Coins", The *Numismatic Chronicle*, 1906 pp. 1—25.

[2] *Cambridge History of India*, Vol. I, p. 343.

[3] *Ibid*, p. 389.

[4] *Ibid*, p. 435.

of a horned horse is found on the reverse of some of the gold staters and silver tetradrachms of Seleucus, on the obverse of which is the king's head with bull's horns.[1] I propose to recognise in this unique stater a coin of Seleucus issued before he assumed the title *Basileus* in 306 B. C.[2] This coin was purchased from a coin-dealer of Gujar Khan in the Punjab.

(3) Gold stater of Antiochus I (B. C. 280-261), king of Syria (Plate XLIV, fig. 3).

Obv. Head of Antiochus I right, diademed without border.

Rev. [ΒΑ]ΣΙΛΕΩΣ on right downwards, [ΑΝ]ΤΙΟΧΟ[Υ] on left downwards; Apollo seated left on omphalos looking along arrow held in right hand, left hand resting on bow. In front, star. Purchased from the same coin-dealer as No. (2).

In a note Pandit B. B. Bidyabinod, Assistant Curator, draws attention to four other non-Muhammadan coins :—

(1) A round silver coin of Azilises of mounted king type (Plate XLIV, fig. 4) not hitherto represented in the Cabinet of the Indian Museum; lent by the Director General of Archæology in India.

(2) An imitation gold Gupta coin from Bengal (Plate XLIV, fig. 5) not hitherto represented in the Cabinet of the Indian Museum; lent by the Director General of Archæology in India.

(3) A unique bronze coin found in the Darrang District in Assam with the later Gupta *va* on the obverse and blank reverse (Plate XLIV, fig. 6); presented by Mr. C. H. Witherington.

(4) A unique cup-shaped silver Indo-Sassanian coin (Plate XLIV, fig. 7) acquired in the Punjab and presented by Mr. James Laing of Puri.

DELHI FORT MUSEUM.

By Khan Sahib Maulvi Zafar Hasan.

The Delhi Fort Museum of Archæology continued to attract large numbers of visitors, including many students of Art and history. The Gallery Assistant completed the catalogue of coins of the Sultans of Delhi, including acquisitions up to the year 1925-26, and a manuscript copy of the same was sent to Mr. Nelson Wright, who is preparing a catalogue of the coins recently acquired from him, and proposes to incorporate therein such other coins in the Museum as are not represented in his collection. For the convenience of the staff the office and the coin room have been fitted with electricity and a new show case has been provided for the better display of the clothing belonging to Bahadur Shah, the last Mughal Emperor, and his Queen. The exhibits

[1] *Cambridge History of India*, Vol. I, p. 435.

[2] After this note was submitted I found that the same identification had been proposed by G. F. Hill, *Catalogue of Greek Coins in the British Museum. Arabia. Mesopotamia, Persia*, London, 1922, p. 191, Plate XXIII.

acquired during the year numbered 2,961, *viz.*, 2,661 coins and 30 other objects. The latter comprised 7 sanads, 14 portraits and paintings, 2 manuscripts 5 pieces of inscribed stones and 2 miscellaneous articles. Out of these the following deserve special notice :—

Five Persian paintings from the Shahnama.—The paintings are on four leaves (one with illustrations on both sides) from an old copy of the Shahnama and illustrate a variety of scenes. They are exquisitely executed and in respect of the choice of colours, details of arms, accoutrements, banners and dress, and studied proportions of men and animals are excellent specimens of their kind (Plate XLV, *a-d*).

Portrait of a dervish.—The dervish is seated on the ground reading a book, a white sash round his knees and back. The colouring is sombre but the drawing and composition are both good.

Portrait of Mirza Farrukhfal.—The Mirza is wearing a court dress of plain white relieved by a gold embroidered sash and a gold hilted dagger. On the skirt of the coat is an inscription containing the name of Mirza Farrukhfal. The latter was a son of Humayun born of Mah Chuchak Begam at Kabul in the year 1555 A.D. (Plate XLVI, *a*).

Picture of the Darbar of Akbar Shah II.—The Darbar is held in the Diwan-i-Khas, Delhi. The Emperor Akbar Shah II (1806-37) is seated on the Peacock Throne constructed by him in imitation of the original made by the Emperor Shahjahan and taken away by Nadir Shah in the year 1738. The figures of some of the distinguished courtiers bear their names, the most interesting among them being those of Mirza Abu Zafar afterwards Bahadur Shah II, Mirza Jahangir and Mirza Babur, the sons of the emperor, and of Mr. Seton, the British Resident. The work, which has little artistic merit, belongs to the period when the art of miniature painting in India had degenerated. At the lower margin of the picture is an inscription recording the name of the artist as Lutf Ali Khan of Kuncha-i-Raiman (Delhi) (Plate XLVII, *b*). It was presented by the jain community of Delhi.

Portrait of Raja Hindu Rao riding a horse.—This is an engraving from a painting executed by Miss Eden and published in 1844. The Raja is riding a horse near the Delhi Fort, which is shown as a background, and his gorgeous dress and the trappings of the horse signify his exalted position. Hindu-Rao was a Marhatta nobleman and the brother of Bijai Bai, the wife of Maharaja Daulat Rao Scindhia of Gwalior. He was fond of the society of Englishmen among whom he was very popular. He died in 1855 A.D. (Plate XLVII, *a*).

Manuscript copy of Mukhtarnama.—The book narrates an account of the holy war waged by Mukhtar, the Avenger, against the murderers of Imam Husain, the grandson of the Prophet and the hero of the Karbala tragedy, which is commemorated by the Muharram festival throughout the Muslim world. The manuscript which is dated 1056 A. H. (1646 A.D.) is illustrated with 43 Persian paintings of considerable artistic beauty (Plate XLVI, *b*).

Silk embroidered carpet.—This carpet, or rather dado, measures 17′ by 5′ 6″ and is divided into 7 *mihrablike* panels ornamented with foliated designs embroidered on a silk ground. It is a rare example of late Mughal work (Plate XLVII, *c*).

Gold enamelled pendant, 2¾ inches square. The centre on the obverse is occupied by the figure of Krishna standing on a lotus under a tree, piping to Radha, who also stands on a lotus opposite the tree. The latter is offering Krishna a lotus and a garland, while between them stands a diminutive cow. On the reverse is an elegant design consisting of birds and flowers with a peacock as the central figure (Plate XLVII, *d* and *e*).

The coins received during the year are as follows:—

(*a*) Coins presented by various Local Governments and administrations, etc., 320 (2 gold mohurs, 284 silver rupees and 34 copper coins).

(*b*) Coins loaned by the Director General of Archæology, 2,341 (165 gold mohurs, 336 silver rupees and 1,840 copper coins).

Among the coins received from the Director General of Archæology the valuable collection purchased from Mr. H. R. Nevill, I.C.S., deserves special mention. It consists of 2,279 coins and includes many unique and rare issues.

TAXILA MUSEUM.

The building of the new Museum at Taxila proceeded apace during the past year and, so far as the structure itself is concerned, was all but completed, though it still remains to finish off some of the interior woodwork and fittings and to instal show-cases and furniture before the collections can be shifted from the temporary and constricted quarters in which they have hitherto been housed. The new building, which is the work of Mr. Sullivan, Consulting Architect to the Punjab Government, promises to be one of the finest of its kind in the East and will be a notable addition to the amenities of Taxila. Of simple, dignified design, spacious and well lit, it will enable the rich collections of antiquities at this important centre to be opened out, arranged and catalogued on systematic and instructive lines, and will show them off to infinitely better advantage than has hitherto been feasible. What is no less important, the new museum, which is to be provided with its own permanent staff, will be open to the public at all seasons of the year. Visitors, therefore, can rely on being able to see the antiquities as well as the sites, irrespective of whether excavations happen to be in progress or not.

As this museum is reserved exclusively for objects recovered from the site of Taxila, the additions made to its collections during the year under review are those which have already been described and illustrated in the account of the excavations in Section II.

PESHAWAR MUSEUM.

By Mr. H. Hargreaves (Honorary Curator).

The number of visitors to the Museum during the year under review was 65,748, nearly six thousand less than in the previous year, but considerably

in excess of all previous years. Foreign visitors especially seem to appreciate this unrivalled collection of Gandhāra sculptures.

Recent acquisitions number 587, all save 33 being coins. Two miniature stupas and two Buddha heads were purchased locally, while sixteen reliefs, a colossal stucco head of the Buddha, a Śarada inscription and a hoard of 541 Treasure Trove coins were sent on loan by the Superintendent, Archæological Survey, Frontier Circle. From Sir Aurel Stein, K.C.I.E., were obtained a fragmentary stone bowl, possibly part of a relic casket, and four fragmentary reliefs all recovered in Swat.

Of the coins, nine silver Muhammadan pieces were acquired from the Gwalior Durbar through the Superintendent, Archæological Section, Indian Museum, thirteen from the Government of Bengal, and three from the Director of Industries, Central Provinces.

The coin collection continues to grow and the need of a catalogue is every year more keenly felt, but the ever increasing official work of the Honorary Curator necessitating frequent absences from headquarters renders it impossible for him to undertake the work.

The four seers of Treasure Trove copper Kushān coins discovered in a mound in the Peshawar District and referred to in last year's report were found after cleaning to number 541. Fifty-nine were of *Kadphises II* and four hundred and eighty-two of Kanishka. An analysis of the deities on the reverse reveals that OKρO appears on 74 coins, OADO on 124, AOPO on 68, MAO on 45, NANA on 42, MIRO on 73 and the Buddha on three only, while on 53 coins the reverse is too corroded to be identifiable. It is somewhat surprising that of 482 coins of the great Buddhist Emperor and patron of the church, coins, too, found far south of the Paropamisus and seemingly current in India, only three should bear the image of the Buddha. Two of these coins show a haloed Buddha standing, the other a similar seated figure, resembling Nos. 9 and 12 respectively on Plate XVIII of *Cunningham's Coins of the Indo-Scythians*. These Buddha coins are a welcome and valuable addition to the Museum collection.

Thirty-one books and reports were added to the library, which is now fairly well equipped with works of reference dealing with the museum exhibits, allied antiquities and local history.

The museum is already so crowded that little space exists for the exhibition of further acquisitions. Stands for three large stucco heads were, however, provided during the year.

The Handbook to the Sculptures in the Peshawar Museum, published by the late Dr. Spooner in 1910, has been out of print for some nine years. As the exhibits had doubled in number since the publication of the Handbook and as, moreover, there had been considerable advance in the interpretation of the reliefs and images in the intervening seventeen years, the re-issue of the original edition would not have met the present needs of visitors to the Museum. Moreover, the original plates were no longer traceable. Mr. Hargreaves, the Honorary Curator, has therefore taken in hand the preparation of a Revised

Handbook. This is now almost complete. New plates have been prepared, and it is hoped that the Revised Handbook will be ready for the press in October 1927.

Attention was directed in the last report to the valuable but inedited inscriptions in the Museum and endeavours are being made to collect and publish all possible information concerning them. Some progress in this work has been made but less success has been achieved than had been anticipated.

Reference was made last year to Inscription No. 15 published by M. Mohd. Hamid, Kuraishi, Assistant Superintendent, Archæological Survey, dated in the year 482 A. H. and the oldest Moslem epigraph yet discovered in India. Mr. Hamid has been good enough to examine Inscription 11, a bilingual inscription in Kufic and Śarada from the Tochi Valley. Its complete decipherment is yet awaited but it appears to be dated 243 A. H., so that it is 239 years older than Inscription 15 and by far the oldest Muhammadan inscription recovered in India. Mr. Hamid's complete report will be awaited with interest.

Captain Barnes, Indian Political Department, presented a bilingual inscription also from the Tochi Valley. This has been referred to the Government Epigraphists but nothing definite has been made of the Śarada portion, while the character of the other part is doubtful, though possibly Mongolian.

The Museum lawns and gardens are in good order and the fabric of the building in sound condition. The proposals for fencing the Museum grounds and for providing iron gates at the entrances and a low terrace walling to the roadways have been accepted by the Local Administration but await execution for want of funds.

The Museum was closed to the public for twenty two days, the Hall being required for various public purposes, conferences, meetings and departmental examinations. This closing of the Museum causes great inconvenience and much disappointment to visitors whose stay in Peshawar is limited, and particularly to those from foreign countries who cannot hope to repeat their visit.

The staff have as a whole worked well and the Custodian, Mr. Dilawar Khan, has displayed his wonted interest, energy and trustworthiness. Visitors to the Museum have spoken very highly of his knowledge of the collection, and his unfailing courtesy and readiness to assist their researches.

At present the Superintendent, Archæological Survey, Frontier Circle, acts as Honorary Curator of the Museum but, in view of recent orders received from the Government of India, it is not certain whether he can continue to do so. The question has been referred to the Government of India for reconsideration as the position of the Peshawar Museum is exceptional, for while it is maintained from funds provided by the Local Government, eighty-six per cent of the sculptures and antiquities are the property of the Central Government and were recovered in excavations carried out at the expense of the Government of India, and under officers of the Archæological Department, or purchased from funds furnished by the Government of India, so that the

Central Government is vitally concerned with the safety of the collections. The Honorary Curator is of opinion that the present connection between the Peshawar Museum and the Superintendent, Archæological Survey, Frontier Circle, should be maintained as long as possible.

SARNATH MUSEUM.

By Mr. M. S. Vats.

The Superintendent, Archæological Survey, Hindu and Buddhist Monuments, Northern Circle, continued to hold charge of the museum as ex-officio curator. Owing to illness Babu Chhote Lal, the Custodian of the museum, was granted leave and a temporary man was placed in charge of the museum for a couple of months.

Only one antiquity was added to the collection, namely, a mutilated colossal figure (ht. 6′ 5″), which was accidently discovered by some Muhammadans while digging a grave at Arra in the Alaipura Mohalla, Bari Bazar, Benares City, and was presented by Mr. V. N. Mehta, the District Magistrate (Plate XLVI, *d*). The sculpture is an extremely well executed alto-relievo of the Gupta period carved in Chunar sandstone and appears to portray Govardhana-dhara Krishna. If this interpretation is correct, it is one of the oldest representations of that god.

The museum has been improved by the construction of a godown, the provision of a surface drain and an iron gateway as well as by the renovation of the garden lawns.

The total expenditure on the maintenance of the museum amounted to Rs. 3,124-9-0.

NALANDA MUSEUM.

J. A. Page.

The only "Museum" maintained by the Archæological Department in the Central Circle is the little collection of minor antiquities recovered during the course of excavation on the Nalanda site, which is kept temporarily in the Archæological Rest House there. Among the most striking of the numerous finds by which this collection was augmented in the year under review are the following. A small metal stupa standing 16¼ inches high, complete except for a missing leg of the base and the topmost finial of the surmounting umbrella. It is divided into 3 tiers, the lowermost being square and containing small raised panels in the middle of each face, one of them inscribed, each central panel being flanked by seated figures, apparently Bodhisattvas, among which may be recognised Avalokitesvara and Vajrapani. In the next tier, which is octagonal, the conventional life-scenes of Buddha are portrayed in a series of panels, from the birth to the *nirvana*. Above this is the dome-like top, surmounted by a *chattri* of eight discs. Another valuable find was a bronze

image of a Bodhisattva $6\frac{1}{2}$ inches high, seated on a lotus flower, the right hand holding a sword and the left a lotus; a coin is burnt on to the back. A second bronze figure possibly represents Vajrapani. It is $5\frac{3}{4}$ inches high, and is seated cross-legged on a lotus; in its hands is a chain with a vajra attached to each end. An unusual little object in stone takes the form of a flat disc. with a figure of Kuvera seated in a circle of eight other little Kuveras, all squatting with legs apart to make room for their paunches. Another admirable little image is of Avalokitesvara with necklace, garland, crown, and bracelets of silver, the remainder of the figure being of bronze. Nor should mention be omitted of a large metal "horn of plenty" and what appears to be part of a large bell. All the above objects came from Site No. 1 and from the Deva-Pala monastery, where they were found sandwiched in between the burnt débris of the fallen roof and the verandah floor.

Another interesting find came from the verandah of a contemporary monastery in Site No. 4. This is a metal image of Tara, 15 inches in height and complete up to its garlanded umbrella. The image is seated cross-legged on a lotus and has eighteen arms; the central pairs of hands being in the preaching attitude, one other hand in the attitude of protection, and the remainder holding a symbol; behind the image is a detachable circular background inscribed on the reverse.

Other articles recovered on this Site included a number of large "country" locks, some square and some cylindrical, and often complete with keys. These were found in the verandahs of Monasteries Nos. 4 and 6, and probably belonged to the cell doors.

Pieces of vitrified débris adhere to all of these antiquities and they will have to be very carefully cleaned.

AJMER MUSEUM.

By Mr. B. L. Dhama.

In the Rajputana Museum a collection of images and other sculptures was lying in a godown for want of room in the main Museum building. During the past year two apartments adjoining the inscription room in the South wing of the Fort were added to the existing accommodation and masonry stands have been constructed in them at a cost of Rs. 223 to receive this collection of images and sculptures.

BURMA MUSEUM.

By Mons. Chas. Duroiselle.

In the course of excavations undertaken at Pagan during the year 1926-27 over a thousand terracotta votive tablets, some bearing inscriptions in different languages: Pali, Sanskrit, Pyū, Talaing and Burmese, and sculptures consisting mostly of images of Buddha were discovered. At Prome, the finds made

consisted of votive stupas in gold and silver, inscriptions engraved on gold and silver plates, images of Buddha, etc., in gold and silver, silver coins, beads made of jade, crystal, carnelian, agate, etc., and small precious stones. They comprised also sculptures in stone and burnt clay and terracotta votive tablets. The objects discovered at Pagan have been placed in the Museum there, but most of those from Old Prome have been brought away to the Archæological Office at Mandalay for examination and further study and for safe custody, while the heavy objects have been deposited in a temporary shed at Hmawza, the old Museum there being too small to house them.

No additions were made to the Museum on the Palace platform at Mandalay.

SECTION V.

OFFICERS ON SPECIAL DUTY.

Sir Aurel Stein.

During the first two months of the year under report Sir Aurel Stein was engaged in completing his archæological explorations in Upper Swāt, Bunēr and the hill tracts adjacent to the Indus Kohistān which are included in the territory under the Miangul ruler of Swāt. The main results of these explorations have already been recorded in his contribution to the Annual Report of 1925-26. Apart from the survey of numerous Buddhist sites and the examination on the ground of the *topographia sacra* of a region prominent in Buddhist lore, those explorations had enabled him to elucidate the essential facts bearing on Alexander the Great's campaign on the Indian North-west Frontier and to locate the chief scenes of the Macedonian exploits, in particular the much-discussed site of the famous mountain fastness of Aornos.

The preparation of a detailed account of the topographical and antiquarian evidence bearing on Alexander's campaign and on the identification of those localities occupied Sir Aurel during the first two months after his return from that expedition. In view of the special interest which the evidence thus collected and discussed may claim on the part of historical and geographical students outside India, Sir Aurel Stein was glad to avail himself of the permission of Government to publish this full account of his investigations in the *Journal of the Royal Geographical Society* accompanied by the requisite sketch maps.

Subsequently he was kept busy until the close of December in completing the record of the explorations carried out by him on the Russian Pamirs and in Eastern Persia towards the close of his third Central-Asian expedition. He was also able to prepare finally for the press the Appendices furnished by numerous collaborators to be included in *Innermost Asia*—his detailed report on that expedition. The whole publication comprising some 1,100 pages, royal quarto, of text in two volumes, together with one volume of plates and another of maps, has since been passed through the Oxford University Press. Its issue must, however, await the completion in print of the full Index. the preparation of which under the sanctioned arrangement has been entrusted to a competent scholar in Oxford, Dr. N. Gardiner.

After disposing of these urgent tasks Sir Aurel was free at the beginning of January to start on an archæological tour along the Wazīristān border and through the whole length of Northern Balūchistān, which kept him fully occupied until the middle of April, 1927. The object of this tour was a systematic survey, accompanied where advisable by trial excavations of such ancient sites in the border regions between India and Irān as are likely to throw light on the connexion between the prehistoric civilization revealed by the excava-

tions at Mohenjo-daro and elsewhere in the lower Indus valley and corresponding cultures traced westwards in Persia and Mesopotamia.

The survey was started by the examination of a series of conspicuous mounds echelonned along the eastern foot of the Wazīristān hills from the vicinity of Drāband to beyond Tānk, to which Mr. E. Howell, late Resident in Wazīristān, had first directed attention. They proved to be composed wholly of the accumulated débris layers of ancient settlements which in the course of prolonged occupation had raised the top of the mounds to heights up to about a hundred feet above the adjacent ground. Erosion, facilitated by the great aridity of the climate, has caused the surface of these mounds as well as of those subsequently surveyed in Balūchistān to be thickly covered with pottery remains from the embedded culture strata. Among them, fragments of decorated earthenware, painted, incised or ornamented in relief, were found in great abundance and variety of design.

In colour treatment and in certain of its geometrical patterns the painted pottery from these sites shows a well-marked affinity to the painted pottery subsequently collected from sites of the Chalcolithic Period in Northern Balūchistān and also to that discovered by Sir Aurel Stein in 1916 at desert sites of the same period in Sīstān. On the other hand, the incised and relief-decorated pieces recall by their motifs ceramic ware found at certain Sīstān sites which can be assigned to historical times preceding Sasanian rule. Having regard to the upper and lower chronological limits thus indicated and taking account also of the fact that no painted pottery of the above kind was found at those sites which can definitely be assigned to the Indo-Scythian period, Sir Aurel Stein is inclined to assign the remains of these Drāband and Tānk mounds to early historical times, or to a period at any rate substantially later than the Chalcolithic culture.

The very willing assistance of the political authorities enabled Sir Aurel to extend his survey to tribal territory in both Northern and Southern Wazīristān. Interesting observations were made in regard to the striking parallel which the protected military roads recently constructed for the pacification of that troublesome border present to the Roman *Limes* systems of the early Imperial times. The remains of an ancient stronghold examined at *Idak* were proved by the evidence of coins and of a ruined Stūpa to date from the Indo-Scythian period. Further north at *Spīnwām* there was found a mound formed by culture strata of approximately the same epoch as noted around Drāband and Tānk. Above this point, where the Kurram River debouches from the hills, a rapid survey was made near Shahīdān of extensive remains marking a fortified site, which from the evidence of its painted pottery can also be assigned to the last named epoch.

Subsequently, proceeding *viâ* Razmak and the outpost of Sarwekai, Sir Aurel made his way under tribal Wazīr protection to the Gumal River. Remains of forts visited in the Spīn plain proved to belong to late historical times. The whole area now comprised in Wazīristān, barren as it is, presents a special interest to the student of the ancient geography of India. The fact

of its chief rivers, the Kurram and Gumal, as well as the latter's chief affluent the Zhōb, being mentioned in the famous *Nadīstuti* or River Hymn of the Rigveda under their ancient Sanskrit names of *Krumu, Gomati* and *Yavyāvatī,* makes it appear very probable that this region had for some length of time been in the occupation of Aryan tribes before they descended from their hills to the conquest of the Indus valley and the Punjab plains. The description which Hsüan-tsang, the great Chinese Buddhist pilgrim of the seventh century A.D., has left us of the territory of *Chichiang-na* corresponding to the present Wazīristān, and the Qīqān of early Arab history, clearly shows that in his time, centuries before the advent of Pathān tribes, this territory "under separate local chiefs but without a supreme ruler," "abounding in sheep and excellent horses" had already a reputation not unlike its present one.

Moving up the Zhōb valley, in Balūchistān territory, Sir Aurel Stein found a series of ancient mounds awaiting exploration in the vicinity of Fort Sandeman, the headquarters of the Zhōb Agency. Among them *Pēriāno-ghuṇḍai,* the "Witches' Mound," is the most conspicuous, rising to fully 70 feet above the adjacent river bed. Trial excavations carried out here proved that the débris deposits of ancient habitations composing the mound belong for the most part, if not entirely, to the Chalcolithic Period, as could already be concluded from the painted potsherds which Dr. F. Nœtling, late of the Indian Geological Survey, had collected here in 1898. The abundant remains of painted pottery from this site, whether exposed on the eroded slopes or excavated, are, like most of the plain earthenware, of a superior well-levigated clay and wheel-made. The painted pieces show almost exclusively patterns executed in black over a dark terracotta ground colour. The motifs composing the painted patterns, almost all geometrical, are remarkably varied. Throughout, they show a strikingly close similarity to the motifs prevailing in the prehistoric pottery discovered at desert sites of Sīstān during Sir Aurel Stein's third Central-Asian expedition. Many of these motifs are found in the prehistoric pottery of Anau, in Transcaspia, and can similarly be paralleled also from that found in pre-Sumerian strata of certain Mesopotamian sites.

The trial excavations made at different points of the mound laid bare remains of habitations built mainly with walls of stamped clay or sun-dried bricks over rough stone foundations. Among the finds made there the numerous cinerary urns with ashes and bone fragments from cremated human bodies claim special interest. They acquaint us with the funeral customs of the period. A considerable number of smaller painted jars and cups found within them, in some cases probably holding offerings of foodstuffs, serve to show the shapes of vessels prevailing in use among the living. Terracotta figurines of animals display a certain artistic skill, while the comparative frequency with which a hooded female bust of peculiar shape recurs here as well as at other Chalcolithic sites suggests that the representation of some deity is intended. Finds of stone 'blades' and arrowheads were made throughout the trial excavations, and their association with fragments of bronze and small ornaments, etc., of bone and stone permits us definitely to assign the painted

ceramic ware of this important site to the Chalcolithic Period of prehistoric civilization.

Painted pottery of exactly the same type was plentifully found also at two smaller mounds in this neighbourhood, those of *Kaudanī* and *Moghul-ghuṇḍai*, in the case of the former both the material and the execution of the designs being somewhat coarser. Finds of worked stones and of bronze fragments (including a neatly worked little jug) make it quite certain that at both mounds occupation dates from the Chalcolithic Period. Close to Moghul-ghuṇḍai, however, there was discovered an extensive cemetery with interesting remains dating from historical times. Here the hill side was found studded with many cairns of rough stones, each containing a few small pieces of calcined bones, pots of fragments of coarse plain earthenware and occasionally small personal relics such as iron arrowheads, knives, bronze rings, a silver bangle, etc. The relief decoration found on one small pot and the figures engraved on one seal ring prove that these curious cairns cannot be older than the early centuries of our era.

After surveying several small sites where occupation during the Chalcolithic or early historical period was indicated by pottery débris, Sir Aurel moved south-east into the Lōralai Agency. Among a number of old mounds and other remains in the Bōri Tahsīl rapidly examined from Lōralai cantonment, the once very large mound of *Rāna-ghuṇḍai*, reduced by digging for manuring earth, deserves passing mention. Among the plentiful painted pottery covering its slopes or embedded in its 'culture strata' a good deal of fine Chalcolithic ware was found, besides pieces of coarser fabric pointing to continued or renewed occupation, perhaps during early historical times.

Definite evidence of such prolonged occupation at different periods, from prehistoric down to historical times, was obtained in the course of the excavations carried out at the great mound near *Ḍabar-kōṭ*. It rises like an isolated hill in the middle of the open Thal plain to a height of no less than 113 feet and measures nearly a mile in circumference at its foot. The great mass of painted pottery found on the slopes and excavated at lower levels displays unmistakable characteristics of the Chalcolithic type, and finds of cinerary urns, worked stones and small bronze objects date from the same period. The discovery in the same layers, some 80 feet above the field level, which yielded these finds, of a well constructed drain built with burnt bricks indicates the comparatively advanced stage of civilization reached. Successive strata full of charred remains could be seen on the sides of the steep ravines with which erosion has furrowed the slopes. They point to great conflagrations which had at intervals overtaken the prehistoric settlement. Long after its complete abandonment convenient positions on the mound had again been taken up for dwellings during pre-Muhammadan times, and the objects brought to light here help *inter alia* to illustrate the great change which the ceramic craft had undergone in the long interval.

Simultaneously with the trial excavations at the great Ḍabar-kōṭ mound it was found possible completely to clear the remains of a ruined Buddhist

Stūpa discovered on a rocky hillock some four miles away at the entrance of the Thal plain. Its relic deposit with small gold-set jewels, pearls, beads, etc., was discovered undisturbed. The surviving Græco-Buddhist carvings of the base and inscribed potsherds in Kharoṣṭhī and Brāhmī prove that this sanctuary, the first Buddhist ruin discovered in Balūchistān, belongs to the Kushāna period. The coarse painted pottery found here has thus become dateable.

Among the specimens of painted pottery secured from a considerable number of ruined mounds in the Duki-Sanjāwi sub-division of Lōralai those found at *Sūr-jangal* led to the discovery of a very interesting small settlement of prehistoric times near the dry riverbed descending from Sanjāwi. The cuttings made through the low mound there yielded not only abundance of fine ceramic ware of the Chalcolithic type but also a large number of stone implements, such as flint blades and arrowheads. From the great quantity of flint cores, chips, etc., found it appears highly probable that the manufacture of these stone implements was being carried on for generations in this locality, the riverbed close by supplying the raw materials.

After visiting several small sites of later historical times in the hills about the Zhōb river's headwaters, Sir Aurel Stein subsequently carried out a survey of the numerous ruined mounds in the Pishīn basin. They attest the economic importance which this large and potentially fertile tract must have claimed at all times and which also accounts for its mention in the Zoroastrian scriptures among the chief territories of ancient Īrān. The painted pottery and other relics collected at those mounds indicate that most of them, though built up at first by débris deposits of prehistoric settlements, continued to be occupied during historical times, in some cases, partially at least, down to the early middle ages. At a few sites, however, such as Krānai above the Surkhāb river, abandonment had evidently been complete since the Chalcolithic period. At the *Sro-kala* mound, crowned by the walls of a ruined fort, it was of special interest to note the plentiful occurrence of ceramic ware decorated with ribbings such as Sir Aurel's explorations in Sīstān had shown to be particularly associated with remains of the Sasanian period. Thus here, too, there was evidence of that close cultural connexion with Īrān which geographical factors have imposed upon these westernmost border lands of India since the earliest times.

Sir Aurel Stein's tour came to its close by the middle of April with a visit to a reported site across the Khōja Amrān range near the Afghān border, and with a subsequent examination of mounds towards Quetta, found to be similar in character to those of Pishīn. The distances which in the course of the tour had been covered by road, aggregated to a total of close on 1,400 miles.

Mr. F. H. Andrews.

The work of setting up the Central-Asian wall paintings in the temporary museum at New Delhi was resumed by Mr. Andrews in the last week of October, 1926. Several important paintings brought back by Sir Aurel Stein on his

second expedition from Miran, Farhad Beg and other Central-Asian sites, which had been mounted at the British Museum some years ago, were remounted. This precaution was necessary in some cases owing to their having become insecure in the wooden frames as a result of shrinkage of the wood and of vibration on the journey to Delhi from London, and in all cases because they were mounted on canvas and wood and were therefore susceptible to attack by white-ants and the Indian climate. These paintings have now been mounted on aluminium similarly to the third expedition specimens. There remain now only a few of these second expedition pieces to be remounted.

A large proportion of the asbestos backgrounds in the wall-cases was fitted and given several coats of paint. This work involved the fixing of elaborate teak batten framing adapted to the various shapes and sizes of the paintings, to which the asbestos sheets were carefully screwed after being accurately cut to shape and the edges next to the paintings bevelled.

Teak framing was designed by Mr. Andrews for the curved segments of the painted dados from the sites Miran III and V, and the fitting of these was completed in the West Gallery. The difficult work of mounting the fragments of a painted dome from the site Toyuk VI was also successfully achieved, and the whole surface, mounted in six equal segments on aluminium frames, was placed in position in the wooden cella constructed to receive it. It is hoped to complete the fixing of this during the coming season.

A few of the most friable specimens were found to have suffered from damp, and had commenced to disintegrate. To arrest this destruction, Mr. Andrews undertook certain experiments which seem to promise success. Enquiries as to methods employed elsewhere to overcome the tendency of ancient mud plaster to expand and break up have not met with any very satisfactory results, and the methods he has evolved seem to be more efficacious and less detrimental to the painted surface than some that have been recommended. The susceptible pieces will have to be carefully watched and any recurrence of the undesirable symptoms at once checked.

During the season, a small collection of modern pictures was received in the museum at the request of the Director General of Archæology, for transmission to the Imperial Institute, London. In this connection, a certain amount of correspondence and account keeping was involved, and the making of cases, packing, lettering and despatching engaged some of the time of the small technical staff consisting of a blacksmith and his mate, two carpenters and a plasterer.

SECTION VI.

ARCHÆOLOGICAL CHEMIST.

Mr. Mohd. Sana Ullah.

During the year under review, the Archæological Chemist was engaged chiefly on tasks arising out of the excavations in the Indus Valley. He spent about two months at Mohenjo-daro where he treated 364 important antiquities of various kinds; and the washing and restoration of pottery and stone objects found there was also carried out under his direction and supervision. Similarly, he was engaged for about a month at Harappa, where he treated 143 antiquities. Besides this work on the two sites referred to, the objects which were sent to his laboratory at Dehra Dun from various places for chemical treatment, numbered 1,868, making a total of 2,375, for the year. These antiquities, which came mostly from excavations in the Punjab and Sindh, comprised objects of silver, copper, bronze, steatite, paste, ivory, faience, etc.

The various methods which are employed for the treatment of these antiquities have already been touched upon in the previous reports; but it may be mentioned here that Scott's alkaline tartarate solution has been found very efficacious for cleaning completely oxidized copper objects. An observation of interest made by Mr. Sana Ullah is that the deterioration of copper or bronze, to which such antiquities are liable when exposed to the atmosphere, is not necessarily due to the presence of soluble chlorides within the object, since, in several cases this 'disease' has been seriously developed even after prolonged washing with distilled water. The cause in such cases, he finds, lies in the presence of insoluble cuprous chloride, which changes into atacamite under the influence of oxygen and water, which are present in the atmosphere. Cupric chloride, which is liberated simultaneously during the reaction, attacks cuprous oxide or copper, forming more atacamite. It is, therefore, obvious that to ensure proper preservation against this 'disease' it is essential to destroy all traces of cuprous chloride that may be present in the objects. This can be accomplished by treatment with solutions of caustic soda, potash, or potassium cyanide. In our laboratory all copper or bronze antiquities after necessary cleaning are left in a 10 per cent. solution of caustic soda for at least 12 hours, before final washing and impregnation. This precaution is not necessary in the case of those objects which have undergone a reduction or alkaline tartarate treatments.

The Archæological Chemist analysed several specimens of various kinds from these excavations and some of the results, which are of interest, are given below:—

Mortar (Mohenjo Daro): Insoluble in HCl Aq., 17·30; H_2O, 17·30; CO_2, 1·10; CaO, 25·54; SO_3, 35·47; MgO, 0·90: $Fe_2O_3+Al_2O_3$, 2·21; Total, 99·82.

Bronze chisel (Mohenjo Daro): Cu, 86·22; Sn, 12·38; Sb, 0·35; Pb, 0·70; Fe, 0·35; Total, 100·00.

Bronze celt (Harappa); Cu, 91·52; Sn, 7·85; Fe, 0·41; Ni, 0·22; Pb & Sn, tr; Total, 100·00.

Copper lance-head (Harappa): Cu, 97·87; Ni, 0·40; Fe, 0·13; O, S, etc., 1·60; Total, 100·00.

Copper lump (Mohenjo Daro): Cu, 96·8; Ni, 0·3; Fe, 0·5; Sn & Pb, *nil;* S, 0·09, 0, 2·31; Total, 100·00.

Chisel (Nal): Cu, 93·05; Pb, 2·14; Ni, 4·90; Total 100·09.

In April Mr. Sana Ullah visited Talbhat to advise the Superintendent, Northern Circle, Hindu and Buddhist Monuments, regarding the preservation of the frescoes in the mediæval fortress situated there. These frescoes have been executed on walls plastered with lime but have been much damaged by vandalism and obscured with smoke, grease and lime-wash. Benzine and methylated spirit have been recommended to eliminate the dirt and greasy layer, but the lime-wash can only be removed by careful rubbing and scraping. The process will be laborious and the officer concerned will have to decide whether it is worth while to undertake these operations, considering the quality and the present condition of these frescoes.

It was reported that the Mutiny Monument at Aurangabad (Kheri) was weathering badly and the Archæological Chemist was asked to recommend suitable preservative measures. He visited this monument in April and recommended the paraffin paste treatment; the decay being due to the action of rain water on the limestone and sandstone of which the building is mainly constructed. In November he paid a visit to the Memorial Well at Cawnpore to advise the Secretary of the Memorial Well Gardens Committee in regard to the preservation of this monument.

The Director of the Mysore Archæological Department sought the advice of the Archæological Chemist in freeing the monuments and images in that State from thick layers of lime-wash and grease with which they are coated for centuries past. For the former 10 per cent. muriatic acid followed by thorough washing with plain water has been recommended. To soften the grease or paint 10 per cent. warm caustic soda has been suggested to be followed by thorough washing with water. Mr. Sana Ullah also cleaned two copper inscribed plates for Rai Bahadur Hira Lal.

SECTION VII.

TREASURE TROVE.

The following are the cases of *Treasure Trove* dealt with by the Archæological Department in the course of the year 1926-27.

DELHI.—(1) Three marble images of Jaina Tirthankaras discovered in the course of excavations carried out by the Public Works Department in the Fort of Sher Shah. The remnants only of a few walls were found in the vicinity of the images and it is not clear whether any Jaina temple originally existed on the spot or not. The images were all inscribed and dated in Vikrama Samvat 1671 (1614-15 A.D.) but were of no iconographical or historic interest. As the Jaina community of Delhi was very anxious to secure them for worship, the images were made over to it. In return, the Jains kindly presented an interesting painting of the Darbar of Akbar Shah II to the Delhi Museum of Archæology (Plate XLVII, *b*).

PUNJAB.—(2) 90 silver coins unearthed at the village of Nag Khurd in the Amritsar District and comprising issues of Aurangzeb, Farrukhsiyar, Muhammad Shah, Ahmad Shah, Alamgir II, Shah Alam II and Ahmad Shah Durrani.

(3) 200 copper coins of the Emperors Akbar and Jahangir discovered in Tehri village, Ferozepore District.

(4) Two earthen vessels containing 2,340 copper pieces of Suri kings and of the Emperors Humayun and Akbar, as well as two silver necklaces of no particular interest; discovered in the village of Nandiala Waraich, Gujranwala District.

(5) Ten coins from a hillock north-west of Thatta in the Pindigheb Tehsil of the Attock District. Nine of the coins are punch-marked issues of the local Taxilan type, 8 being rectangular and 1 circular in shape. The latter has four symbols on the obverse; all the others have five, *viz.*, the solar symbols, *chaitya*, bull or rhinoceros, taurine and tree. On the reverse, seven pieces are struck with one symbol and the remaining two with two and three symbols, respectively. The tenth piece is a circular coin of Philoxenos, king of the Western Punjab (125 B. C. ?) of the Bust and Horseman Type.

WESTERN CIRCLE.—(6) 103 silver coins unearthed in a municipal gutter at Thana and forwarded by the Collector of Thana. They proved to be ordinary Gadhaiya coins of little value. The Municipality presented them to the Prince of Wales Museum, Bombay.

(7) 2 silver ornaments, eight silver *vala* and a silver ring from Pathar Pimpri in Jamner Taluka of the East Khandesh District. These articles being of no archæological value were returned to the finder.

(8) 33 gold *pavans*, weighing about 6 tolas found in the house of one Rudragouda Mudigouda, Patil of the village of Kirsur in the Bagalkot Taluka of the Bijapur District. All the pieces, excepting two, had been melted before

they could be attached. The offenders were prosecuted and fined Rs. 10 each under section 20 of the Treasure Trove Act.

(9) A group of images and sculptures found by the Shivrajpur Syndicate Co., Ltd., while excavating an old well at Tayabpur, a village in the Kapadvanj Taluka of the Kaira District. Some selected specimens were presented to the Prince of Wales Museum of Western India.

(10) Three small silver bangles, one small image of Siva and three broken pieces of images found while removing earth and débris from the caves at Jogesvari in the Bombay Suburban District. They have been recommended for acquisition.

(11) 2 silver and 14 copper coins and 2 small copper fragments found by the caretaker on the site of Brahmanabad-Mansura in Sind and received through the Collector of Nawabshah. They were sent to the Superintendent, Indian Museum, Calcutta, for examination.

(12) A group of sculptures found in a mound in the Chhaba Talao in the Panch Mahals District. Most interesting among them are three representing Vishnu, Garuda and a Jain Pandit. The first portrays Vishnu reclining flat on the seven hooded Ananta. The broken figure near his feet is Lakshmi, while the one near his head is Bhumidevi. Brahma is seated on a lotus above the navel of Vishnu. The demons—Madhu and Kaitabha—are standing with swords and shields to the left of Brahma, and Garuda appears at their left. Narada with his *vina* and Siva seated on a lotus are also recognisable to the right of Brahma. Various other small figures adorn the top row. The second image represents Garuda kneeling on his left knee with his left foot resting on the heads of a pair of Nagas (Plate XLVI, *c*). The third, which bears an indistinct inscription seems to be the effigy of a Jain Pandit, named Saradat Sidharai (Plate XLVI, *c*). These and several other sculptures have been recommended for acquisition under the Treasure Trove Act.

Central Circle.—(13) A collection of 48 gold pieces found in Mauza Berhampore of the Qila Banki Government Estate in the Cuttack District. 47 of the pieces are in thin metal with 4 pieces of a gold necklace and 2 broken earrings and prove to be religious tokens or largesse money issued about the 6th century by the mother of one Sriprasanna, probably a local ruler under the Gupta kings. They bear the figure of Garuda in repoussée relief. A thick gold piece found with them is a coin of Vishnu Gupta (c. 540-560 A.D.), whose standing image it bears along with a Garuda emblem. The whole treasure has been recommended to be acquired at a cost of Rs. 106 (representing the metal value *plus* one-fifth). It is being temporarily kept in the Patna Museum Coin Cabinet.

(14) 15 silver Muhammadan coins discovered in a Toila jungle in Mauza Padmalavpur Orissa. They are now with the Curator, Patna Museum, for examination.

(15) A piece of gold spiral, over 6 tolas in weight, found on waste land in the Kohlan Government State in the Singhbhum District. The Collector was asked to send this to the Curator, Patna Museum, for examination.

Eastern Circle.—(16) 79 old brass and bronze utensils found in Chandra Bil in the Gopalganj Sub-division of the Faridpur District. These objects which were referred to in last year's report (pp. 170-171), were duly acquired under the provisions of the Treasure Trove Act and presented to the Indian Museum for exhibition in the Archæological Section.

(17) A late Gupta gold coin found by a cultivator while tilling his fields in the village of Koykhan in the Gopalganj Sub-division of the Faridpur District. This also was acquired under the Treasure Trove Act and added to the collection of the Indian Museum coin cabinet.

(18) A find of 22 silver coins in an earthen pot made by one Rupban Bibi, of the village Khatashia, P. S. Mirzagunj; reported by the Collector of Bakarganj. The coins are of the reign of Emperor Shah Alam of Delhi issued in the 19th year of the reign of that Emperor. The treasure has been recommended for acquisition and distribution among the several museums.

Southern Circle.—(19) Copper images of Bhikshatanamurti, Parvati and Manikavasagar, found in the village of Kurichi, Mayavaram Tāluk, Tanjore District.

(20) A copper image of Surya found in the village of Harischandrapuram, Kumbakonam Taluk, Tanjore District.

(21) A stone image of Mahavira, the 24th Jaina Tirthankara, found in the village of Poonamalle, Sriperumbudur Taluk, Chingleput District.

(22) 9 Buddhist marble sculptures discovered at Goli village, Palnad Taluk, Guntur District, by Professor Jouveau Dubreuil of Pondicherry. Several of the sculptures illustrate scenes from the life of the Buddha or from his previous births; others portray the Buddha seated. One piece representing a stupa in relief bears a small inscription at its base.

(23) A set of five copper plates found at Komi village in Chicacole Taluk, of the Ganjam district. The plates are strung on a ring, the ends of which are soldered to the bottom of a circular seal on which is a bull *couchant* in the centre, along with a conch, discus, *chamara*, umbrella, moon, sun and other symbols. The plates record the grant of the village of Khonna by the Eastern Ganga King, Ananthavarman Choda-Gangadeva, to three hundred Brahmin pandits. The grant is dated Saka 1003, Mina, Krishna Panchami, Sunday (probably A.D. 1081, March Monday). The language is Sanskrit and the alphabet in Nagari characters.

(24) A similar set of five copper plates found in the same village as No. 23. They record the grant of 88 *vrittis* of land in the village of Tubupu by the Eastern Ganga king, Anantavarman Choda-Gangadeva to the Brahmins as compensation for joining subsequently with the village of Gara Mandapam which was originally granted to the Brahmins along with the village of Khonna by the King's grand-father, Vajrahasta in Saka 1003. The grant is dated Uttarayana Saka 1034 (1112-13 A.D.). The language is Sanskrit, and the alphabet is Telugu.

SECTION VIII.

MISCELLANEOUS NOTES AND QUERIES.

Two unpublished Gandhāra Reliefs.

By Mr. H. Hargreaves.

Two Gandhāra reliefs of exceptional interest and which are believed to be unique specimens, have been recently acquired by the Peshawar Museum.

Monk receiving a royal visitor.—The first, No. 81 L of the Museum collection, is a fragment of a frieze, length 13¾″, height 6¾″, consisting of one complete panel to the right and traces of another to the left, but with no intervening pilaster. On the panel to the left are traces of a seated monk and a folding table suggestive of a feast in the house of some pious layman. (Plate XLVIII, *b.*)

The scene to the right is of unusual interest as the protagonist is not the Buddha. On a low seat, which appears to be a thick cushion, a monk is seated cross-legged with the feet concealed by his *saṅghaṭī*, which also covers both shoulders. The left arm is hidden in the robe but the right is bent, the hand resting on the chest. The monk is facing half right towards a princely figure holding a now indistinguishable object in his right hand. Following him is a servant bearing his master's turban (*ushṇīsha*) and royal umbrella, and behind him an elephant with *haudah*. A now defaced personage, holding a large handled water-pot indicative of a donation, stands behind the seated monk. Immediately behind the figure with the water-pot and running more or less parallel with the left edge of the scene are curious wavy lines which suggest a stream of water.

We have, therefore, a royal personage visiting a monk (seemingly seated by the side of a river) and, judging from the water-pot, possibly about to make a donation.

That the monk is entitled to very special respect is evidenced by the fact that the royal visitor has removed his turban before approaching his presence exactly as did the king Bimbisara, who, when he visited the Buddha, removed the five signs of his royal rank, *viz.*, the *ushṇīsha*, umbrella, sword, fan and sandals.

Now, it has long been remarked that the Græco-Buddhist sculptures are devoted entirely to illustrating the story of the Buddha and only one exception to this has ever been recorded, namely the relief No. 2285 of the Lahore museum, which depicts the *parinirvāṇa* of Ānanda. Sculpture No. 81 L of the Peshawar Museum is seemingly a second exception and the principal character is again a monk. Is it in this case again Ānanda immediately anterior to his *parinirvāṇa* ?

Nothing is known concerning the provenance of the relief, which was sent to the Peshawar Museum without any information from the bungalow of the

late Mr. E. W. Tomkins, C.I.E., O.B.E., Inspector General of Police, North-West Frontier Province, Peshawar, where it had apparently been lying for many years.

The unique relief is published in the hope that scholars in other branches of Buddhist learning may be able to identify the actors, place and occasion.

INSCRIBED SECULAR RELIEF OF TWO CONTENDING WRESTLERS.—The second, No. 1938, is a relief $15\frac{1}{4}'' \times 10\frac{1}{4}'' \times 2\frac{1}{2}''$, which is not part of a frieze and not apparently from a sacred monument. The edges are rounded and in the middle of the ends the back of the stone has been cut to facilitate handling.

In the centre, in low relief, are two contending wrestlers, the one to the left somewhat heavier and slightly taller than his antagonist. Both are naked save for a loin cloth which forms a belt-like roll on the haunch. The taller wrestler grasps the loin cloth of his opponent with his left hand and with his right hand catches hold of the left hand of his adversary whose right hand is hidden. (Plate XLVIII, *a.*)

The sculpture is undoubtedly of the Gandhāra school and the figures are precisely those of the professional wrestlers of to-day and call to mind the bravoes hired by Devadatta to murder the Buddha, representations of whom occur in Græco-Buddhist sculptures. Except for the two contending wrestlers, the remainder of the stone is quite plain save in the upper right corner, where is a neatly cut inscription of four Kharoshṭhī characters, which appears to read *Minaṁdrasa.* This may be a corrupt form of Menander, and probably the name of one of the wrestlers.

The works of the Gandhāra school have been almost entirely devoted to religious subjects or to decorative reliefs for the adornment of sacred monuments, so that Græco-Buddhist is a commonly accepted alternative designation for these sculptures. The relief in question, however, appears to be a rare example of one of its products having no religious signification. The sculpture is said to have come from Lālpura in Afghanistan.

A GOLD COIN OF SAMUDRAGUPTA OF THE 'BATTLE-AXE TYPE.'

By Pandit Madho Sarup Vats, M.A.

In the year 1915-16 two finds of coins under the Treasure Trove Act were reported in the Punjab. "The first of these", writes Mr. R. B. Whitehead, "was a trouvaille of sixty gold coins which came from the village of Mithathal in the Hissar District of the Punjab. Thirty-three were gold coins of Samudragupta, and the remaining twenty-seven were pieces of the later Kushans. They formed part of a lot of 86 gold coins contained in an earthen vessel which was turned up by the plough. Twenty-six had been melted down before the remainder were rescued. The find is of particular importance because Gupta coins have probably never been unearthed so far west before. They are usually found on the eastern side of the United Provinces." Dealing with the more notable coins he mentions "one very fine piece of Samudragupta's Battle-axe Type belonging to a variety of which only one previous

specimen is known".[1] It was this particular coin which the Darogha of the Central Museum, Lahore, brought to me for examination. It is an extremely rare coin of the 'Battle-axe type' with the position of the king and the boy reversed. The only published example of this variety of the 'Battle-axe type,' so far as I am aware, is reproduced in Plate XVIII, 10, of Wilson's *Antiquities and coins from Afghanistan*, and of this an old impression exists in the British Museum.[2] But Wilson's illustration does not contain the complete legend as the present specimen does (Plate XXIII, *b*).

On the obverse is the king to right, nimbate, wearing close-fitting cap, coat and trousers, earrings, necklace and sword, and holding the battle-axe (*paraśu*) in his right hand, while the left hand is placed on the left hip. To the left of the king is a boy, behind whom is the crescent-topped standard. Ordinarily the king holds the battle-axe in his left and rests the right hand on his hip, and the boy stands to his right. Beneath the left arm of the king is the legend *Samudra*, and the inscription along the border, which is in the Pṛithvī metre reads: '*Kṛitānta-paraśu(r)-jjayaty-aj(i)ta-rāja-j(e)t-āj(i)taḥ.*' Except a few vowel marks the legend is quite clear. An orthographical peculiarity is the doubling of 'j' after 'r.' The inscription is a boast of the king's victories after an exceptionally successful career of conquest: 'Victorious is the unconquered conqueror of unconquered kings who wields the axe of *Kṛitānta* (the god of death).'

The reverse shows the goddess Lakshmī, nimbate, seated facing on a throne, as in the coins of the "standard" type, her feet resting on a lotus. She has a fillet in her extended right hand, and a lotus in the left. In the left upper field is the usual monogram, and the inscription *Kṛitānta-paraśu(ḥ)* in the right field.

The epithet *Kṛitānta-paraśu(ḥ)* inscribed on both faces does not occur in the Allahabad *praśasti*, but is found in the inscriptions of Samudragupta's successors. Both the Allahabad and some of his successors' inscriptions describe him as equal to Antaka, another name of the god of death.

MEDIAEVAL SAIVA SCULPTURES FROM JAGATSUKH AND JAGESVARA.

By Pandit Madho Sarup Vats, M.A.

JAGATSUKH lies about 8 miles north of Nagar, the old capital of Kulu in the Kangra District. Behind the modern temple of Sandhyā Devī is a little gem of a Śiva temple in which there are several sculptures including an interesting one of Hara-Gaurī. This sculpture is an alto-relievo of bold workmanship, measuring $2\frac{1}{2}' \times 1\frac{1}{2}'$. Śiva is shown in his triple form as Creator, Preserver and Destroyer, and has four hands. He has Pārvatī seated on his left thigh and is riding his vehicle, the Nandi. The fact that Śiva has three heads and is seated on the bull in company with his consort, lends interest to the sculpture. Each of the three faces has three eyes. The

[1] *Lahore Museum Report* for 1915-16, p. 12.
[2] John Allen's *Catalogue of Gupta coins*, page LXXIII.

proper right one depicts Śiva in his fierce aspect, with round, staring eyes, knitted eyebrows, wide mouth with side tusks, and a head-dress of skulls and snakes. The other two faces show his beatific aspects but have the *jaṭā-makuṭa* and the '*karaṇḍa ? makuṭa*' as head-dresses. The upper right hand holds the *triśūla*, and the lower right the *akshamālā*; the upper left hand is thrown round the waist of Pārvatī and the lower left holds a bulbous fruit. Pārvatī holds the *akshamālā* in her right hand, but the left is broken. There is a lotus bud over her left shoulder. She wears the usual *karaṇḍa-makuṭa* and other ornaments. Flying in the air are two Gandharvas carrying garlands, and on either side of the Nandi a female *chauri* bearer. There is no inscription on the sculpture, which is one of the finest I have seen in the Kulu valley. On stylistic grounds it may be assigned to the thirteenth or fourteenth century.

At JAGESVARA in the Almora district is a remarkable group of Hindu temples, which include two pyramidal shrines each adorned with a Śiva panel in the centre of its trefoil pediment over the doorway.

The panel on the southern shrine depicts Śiva's dance. The god wears a braided *jaṭāmakuṭa*, a necklace, a loin cloth and a girdle. He has four hands; one of the right hands holds the *triśūla*, while the other is held up in the *abhaya* pose; one left holds a cobra, and the other, which is thrown across the body in the *daṇḍahasta* pose, points downwards. On raised seats to his right and left are Kārtikeya and Gaṇeśa. In the lower ground are a seated male and a female musician, a standing female singer and a seated dwarf hurling a cobra to smite the Naṭarāja. Śiva's evening dance in the Himalayas with a divine chorus is thus described in the *Śiva Pradosha Stotra:*

"Sarasvati plays on the *vīṇā*, Indra on the flute, Brahmā holds the time-marking cymbals, Lakshmī begins a song, Vishṇu plays on a drum, and all the gods stand round about."[1]

In the sculpture I am describing, the singing figure must be *Lakshmī* and the female figure playing on the *vīṇā*, Sarasvatī, while the male figure at the proper left end of the panel playing on the flute may be identified as Indra or as Bhṛiṅgi. The male figure with the cobra may possibly represent the malignant dwarf, Muyalaka, who according to an episode in the *Koyil Purāṇa* rushed upon Śiva when he visited the Taraka forest accompanied by Vishṇu in the form of a beautiful woman and Ādiśesha, to confound a multitude of heretical *ṛishis*, followers of the *Mīmāṁsā*.

The sculpture in the panel on the northern shrine has been identified for me by Rai Bahadur Daya Ram Sahni. The central figure seated on a lotus throne with the *ūrdhva-meḍhra* and holding a staff (*daṇḍa*) in his left hand is undoubtedly Lakulīśa or Lakuṭapāṇīśa, a well-known incarnation of Mahādeva. Many images and temples of this deity have already been discovered in Rajputana, the Central Provinces, Orissa and Kashmir. The right hand of Lakulīśa in the present sculpture holds a rosary instead of the citron fruit (*mātuliṅga*). Of the four figures seated on both sides of Lakulīśa, the two

[1] T. A. Gopinath Rao's *Hindu Iconography, Vol. II*, Part I, p. 233.

outer ones with joined hands are obviously worshippers or donors of the sculpture. It is not, however, so easy to identify the other two. An image of this deity at Belar in Marwar is flanked by Yama on the right and Agni on the left, while another figure at Atru in the Kotah State has Brahmā on the right and Vishṇu[1] on the left. The pot-bellied figure on the proper right of the god in the sculpture under notice may perhaps be identified as Brahmā; the corresponding figure on the other side has, however, matted hair (*jaṭā*) and cannot be a representation of Vishṇu.

Some Temples at the Village of Toka, Ahmednagar District.

By Mr. G. C. Chandra.

Mr. K. V. Joshi, Sardar of the Deccan and Jagirdar of the village of Toka in the Nevasa Taluka of the Ahmednagar District, has recently brought some ancient temples and ghats to the notice of Government. The temples, three in number, enclosed within a compound, stand on the bank of the river Godavari just at its confluence with the Pravara. There are two entrances to the compound, one to the east and the other to the west. The east entrance, which has a Naqqārkhāna above it, is not much used. The main central temple, which is dedicated to Siddheśvara Mahādeva, faces the east. The two others, to the north and south of it, are dedicated to a *devī* (goddess) and Vishṇu respectively. The main temple has a very finely decorated *maṇḍapa* in its front. In the floor of the *maṇḍapa* is a square pit, apparently meant for the performance of *homa*, which is covered over by a stone slab carved with the figure of a tortoise. The *maṇḍapa* is carried on eight pillars and four pilasters. The bracket-capitals are adorned with squatting figures. The pillars stand on low walls which are used as seats and provided with back rests. On the outside faces of these walls several gods and goddesses are carved. The *garbhagṛiha* or shrine has two doors, the one to the south having been opened out at a later date through what was originally a niche. The outside walls of the *antarāla* are decorated with Paurāṇic scenes. The panel on the north wall shows Indra seated on his couchant elephant in front of a temple with its *maṇḍapa* occupied by a lion, thus showing that it was dedicated to the Devī. The standard or *dhvaja* of Indra is carried by a man standing in front of the elephant. To the left of this panel a standing winged human figure with a serpent coiled about its legs, is seen carrying an uprooted tree on his head with a figure of Vishṇu in his left hand, and one of Lakshmī in his right. The winged figure may, therefore, be identified as Garuḍa, the bird vehicle of Vishṇu. The panel on the south wall represents six female figures standing on a flight of steps. The scene appears to represent a marriage-competition (*svyambara*), at which *Arjuna* is piercing a flying fish in the air by observing its reflection in the water kept in a big bowl at his feet.

The temples described in this note exhibit the type of Hindu architecture which was in vogue during the 15th and 16th centuries A.D. during the time

[1] *Annual Report of the Archæological Survey of India*. Part II, 1906-07 (pages 185—186).

of the Nizam Shahi and Adil Shahi, kings of Ahmednagar and Bijapur. After the great Maratha disaster at Panipat, Nizam Ali destroyed several Hindu temples of Toka in 1761, and traces of later restoration and additions made to the temple of Siddheśvara Mahādeva appear to show that this structure must also have suffered at his hands. An isolated inscription on a wall of the temple of Vishṇu is dated in the Śaka year 1615.

The ghats referred to above are five in number and built along the banks of the Godavari. The two central ones to the north of the temple are much weather-worn. The others seem to have been repaired and added to subsequently. Inscriptions of the Śaka years 1683 to 1685 are engraved on them.

Contravention of the Ancient Monuments Preservation Act in the United Provinces.

By Khan Sahib Maulvi Zafar Hasan, B.A.

An unfortunate case of vandalism that occurred in the Northern Circle during the year under report was the demolition of the walls of the outer court of the Jaunpur Fort. The Fort is said to have been erected by the Emperor Firoz Shah, while the court in question was added to it by way of fortification by Munim Khan, Khan-i-Khanan, the Governor of Jaunpur during the reign of the Emperor Akbar. The court consisted of an enclosure surrounded by battlemented walls, and entered by a gateway ornamented with tilework. For a long time it had been in occupation by the Police Department as a Kotwali, and several small buildings, such as quarters for constables, stables, etc., were constructed in connexion with it. In 1925 the Kotwali was removed to other buildings in the town, and the material of the additions made by the Police Department were sold by them at a public auction. On news being received of this the Superintendent of Police, Jaunpur, was at once requested to issue instructions that in the course of dismantling the modern Police buildings the ancient walls of the Fort should not be damaged. These orders were duly issued and communicated to the purchaser concerned, but for some reason best known to himself the latter pulled down the walls of the outer court. At the instance of this Department he was, therefore, prosecuted by the Police under Section 16 of the Ancient Monuments Preservation Act (VII) of 1904. The court, however, held that the walls were not ancient, but were built by the Police Department in modern times and duly sold by them. On these grounds the man was acquitted.

Another case of vandalism that occurred during the year was the desecration of a grave at Pirghaib on the Ridge at Delhi. The grave is in the second storey of the building and, contrary to Muslim practice, is placed from west to east. According to a tradition it was constructed in memory of a saint, who used the apartment in which it is placed as his *chillagah* or worshipping place, and one day suddenly vanished from there. The cenotaph is held in veneration by the public, and the whole building, which was really a Shikargah

or shooting box of Firoz Shah, is known after the saint as Pirghaib or the vanished saint. The damage done to the cenotaph and its head pillar was fortunately not very serious, but as it was a cognizable offence, the local Police made prompt investigation in the matter. The culprit has not so far been traced. Steps have been taken to restore the cenotaph and the head pillar, which will take precisely the same form as the original construction.

SECTION IX.

DEPARTMENTAL ROUTINE NOTES.

Ancient Monuments Preservation Act and Listing of Monuments.

United Provinces.—Three Muhammadan monuments in the United Provinces were declared protected during the year under review and 11 monuments were removed from the List of Monuments accepted as a Central charge. In order to ensure their proper maintenance agreements were executed and registered with the owners or mutawallis (Trustees) of the following 4 privately owned monuments :—

1. Dargah of Sayyid Salar Masud at Bahraich.
2. Khalis Mukhlis or Char Ungli Masjid at Jaunpur.
3. Jami Masjid at Sambhal in the District of Moradabad.
4. Shrine of Kabir Shah at Maghar village in the Basti District.

One monument, a mound at Tilmapur in the Benares District, in the charge of the Superintendent, Hindu and Buddhist Monuments, was notified as protected.

Punjab (a) Hindu and Buddhist Monuments.—Two monuments were declared protected under the Ancient Monuments Preservation Act, and the protected mound "D" at Harappa was acquired for excavation purposes. Steps were also taken to negotiate agreements in respect of certain privately owned monuments, but these were not complete before the end of the year.

(*b*) *Muhammadan and British Monuments.*—The correction of the list of Muhammadan and British Monuments engaged the attention of the Superintendent for a considerable time. One monument alone, the Chitti Baoli, on the old Mughal highway between Hasan Abdal and Attock, was declared protected and accepted as a Central charge. The charge of four British monuments, *viz.*, the Graves of Brigadier-General C. R. Cureton and Lt.-Col. W. Havelock at Ramnagar in the Gujranwala District, Lord Elgin's Grave at Dharamsala in the Kangra District, and the cemetery at Muzaffargarh were transferred to the Ecclesiastical Department, 11 so-called Kos Minars, of which 6 proved to be old British Telegraph pillars, were removed from the List of Protected Monuments. Agreements respecting privately owned monuments were entered into with the owners of the mosque and tomb of Tahar Khan Nahr, in the Muzaffargarh District, and with the Mutawalli of Wazir Khan's Mosque, Lahore. Proposals for agreements are still being considered by the owners of the very important monuments of Multan, of Shamsher Khan's Tomb at Batala, Gurdaspur District, and of monuments in the Hissar, Gujranwala and Karnal Districts. For the most part, private owners of protected monuments readily consent to execute agreements under the Ancient Monuments Preservation Act but for some unknown reason those at Multan have shown considerable reluctance to do so. This is all the more regrettable as the

monuments of Multan are of exceptional beauty and architectural interest, and any ill-advised alterations or additions to them would be lamentable. Under Section 16 of the Act an owner is expressely exempted from any penalties and he may, therefore, in the absence of an agreement, destroy, injure, alter, deface or imperil a monument as he chooses.

Delhi.—Five Muhammadan monuments were declared protected under the Ancient Monuments Preservation Act and accepted as a Central Government charge.

North-West Frontier—The traffic in Gandhara sculptures still continues in spite of the notification issued under Section 17 (1) of the Ancient Monuments Preservation Act. The Afridis in the vicinity of the Shpola Stupa, as a result of exploration in the Khyber, have taken to digging on their own account and selling the finds to visitors on the spot. It is a pity that there is no means of stopping these haphazard diggings but the Act does not function in tribal territory.

Bombay Presidency and Sind.—Notifications of protection in respect of the following monuments have been issued:—Temples and gateways at Banasankari; Begum Talao, dam and connecting acqueduct with water towers at Bijapur; and monuments at Moro in the Nawabshah District. 14 monuments were removed from the list of protected monuments, *i.e.*, 9 in the Panch Mahals District, 1 in the Poona District, 1 in the Bombay Suburban District, 2 in the Nawabshah District, and 1 in the Ahmedabad District. Out of 39 monuments notified as protected in 1921 in the Panch Mahals District, thirty were confirmed as such after careful scrutiny. The following 10 monuments have been removed from the operation of the exception specified in the Schedule of the Devolution Rules:—Satara 5, Ahmedabad 2, Poona 1, Nasik 1, Ratnagiri District 1. Agreements have been entered into with the owners of the tombs of Talpur Mirs at Hyderabad and of the Pandawa's Wada Masjid at Erandol in the East Khandesh District.

A mujawar of Bijapur was prosecuted under section 16 of the Ancient Monuments Preservation Act for disfiguring the gateway of the Padkhan Masjid and fined Rs. 30 by the City Magistrate of the place. The Ahmedabad Municipality having damaged the stone screen in the inlet of the Kankaria Tank had to have it repaired under the supervision of the Public Works Department.

Bihar and Orissa.—No monuments in the Bihar and Orissa were protected under the Ancient Monuments Preservation Act, during the year under review. At the instance of the Local Public Works Department, a Contractor of Bihar was charged under section 16 of the Act for excavating land within 30 yards of the Bihar Fort, a protected monument. He was convicted and sentenced to a fine of Rs. 5 or, in default, to 2 days simple imprisonment.

The Superintendent completed the List of Monuments in the Bihar and Orissa Province together with some 170 illustrations and maps, and the same has been sent to the press for printing.

Central Provinces and Berar.—Two monuments in the Bhandara District were provisionally protected, namely:—the shrine dedicated to Mahadeo at

Nagra and the remains of the circumvallation wall of Pauni Fort. The former is a simple shrine of the middle mediæval period with square, colonnaded *mandapa* and smaller projecting *deul;* the latter, a picturesque length of wall with chattri-capped bastions raised on a low hill crest flanking the road into Pauni. The only other monument notified as protected was also in the Bhandara District; *viz.,* the remains of two old temples at Padampur, now merely a collection of massive stones in separate heaps, one just outside and to the north of the Padampur village and the other immediately south of the adjoining village of Ganeshpur. They are both half buried in the earth, and are remarkable chiefly for the great size of the stones.

Earlier notifications protecting the following 27 monuments were withdrawn by the Central Provinces Government in the Public Works Department:—In the Akola District, the Sipi Mahal at Mangrul; in the Betul District, the Fort at Shergarh; in the Bhandara District, the Temple of Chandika Devi at Pauni and a small dilapidated temple at Nagra; in the Bilaspur District, the Madarbada at Ratanpur and the Temple at Bamhu; in the Chanda District, the enclosure wall of the Mahadeo Temple at Chanda, the Someshwar Temple at Dadmahalpura, the Maroti Temple in Bhiwapurpeth, Ballarshah's Tomb at Ballapur, the old Temple near Taka Talao at Bhandak, the Bhadranath Temple at Bhandak, Bhawani's Cave at Bhandak, the old temple at Bhatala, the old Fort and ruined Temple at Dawalwada, the Mahadeo Temple at Dewalwada, the Fort Gateway at Segaon, the old tank at Junona, the Mahadeo Temple at Waghnakh and the Mahadeo temple at Amdiharba; in the Nagpur District, the Stone Circles at Wathoda, the site of an old temple at Naniapuri, the ruins of the Mahratha Fort at Umrer, the Tank and Mandapa opposite the Dattatreya Temple at Ramtek, Kalimata's Temple at Ramtek and the Fort at Nagardhan; and in the Saugor District, the so-called Buddhist Temple at Gadholi Jawahar.

These notifications were withdrawn either because the monument concerned proved on being visited by an Archæological Officer to be not worth preserving, or because the owner was not willing to enter into an agreement for its maintenance under Section 5 of the Act.

Eastern Circle.—At the instance of the late Superintendent of the Eastern Circle, eight monuments, all in the Bankura District, were added to the list of Protected Monuments in Bengal during the year under review, namely:—Ratneswar temple at Mauza Jagannathpur, Radha-Damodar temple in Mauza Ghutgoria, Jain temple at Mauza Pareshnath, a temple site now represented only by a mound and statue of Surya at Mauza Pareshnath, a temple site now represented only by a mound at Mauza Sarengarh, a temple site now represented only by a mound with statues of Ganesha and Nandi on it at Mauza Sarengarh, an image of Durga slaying Mahishasura at Sarengarh, and a temple site now represented only by a mound with an image of Nandi on it at Sarengarh. Notifications of protection have been rescinded in respect of the five following monuments in Bengal:—fort known as Tribeni or Sonakanda, District Dacca; tomb of Nawab Nasrat Jung and three others in the same

enclosure, namely, the tomb of Shams-ud-Daullah, Qamar-ud-Daullah and Ghazi-ud-Din Hyder, District Dacca; tomb of Alau-l-Haq at Pandua, District Malda; the shrine (Mosque and Tomb) of Nur Qutb Alam at Pandua, District Malda and the tomb of Makdum Akhi Siraj-ud-din at Firozpur in Gaur, District Malda. The following 10 monuments not being of a strictly archæological character have been transferred to the Commerce Department for future maintenance (Government of India Notification No. 2373-Edn., dated 6th December 1926):—Clark's monument, Sahebganj, Burdwan District; two tombs in North Park Street Cemetery, Calcutta; tomb of the Rev. Joseph Paget, Dacca; tombs of Alexander Csoma-de-Köros and General Lloyd, Darjeeling; Dutch Cemetery, 3 graves in the English portion and 84 in Dutch portion, Chinsurah, District Hooghly; Danish Cemetery, 17 graves, Serampore, District Hooghly; John Pierce's Tomb, Midnapore; old Dutch Cemetery, Kalikapur, District Murshidabad; Station burial ground, Babulbona, District Murshidabad and the old residency burial ground, Kasimbazar, District Murshidabad.

The Superintendent has submitted a corrected list of monuments protected under the Ancient Monuments Preservation Act in Bengal and Assam.

Madras.—A complete list of protected monuments in the Madras Presidency accepted as Central charges has been submitted by the Superintendent and 3 new monuments have been added to the list. Tirumalai Naick's Palace at Madura was removed from the list of Protected Monuments and made over to the Government of Madras for maintenance and use.

Burma Circle.—During the year under review no action was taken under the Ancient Monuments Preservation Act and no addition was made to the list of protected monuments in Burma.

PUBLICATIONS.

The following publications were issued by the Department during the year 1926-27.

1. *Annual Report of the Archæological Survey of India* for 1922-23, edited by Dr. D. B. Spooner, B.A., Ph.D.
2. *Annual Report of the Archæological Survey of India* for 1923-24, edited by Sir John Marshall, Kt., C.I.E., Litt. D. etc.
3. Memoir No. 19.—*The Jami Masjid at Badaun and other buildings in the United Provinces*, by Mr. J. F. Blakiston.
4. Memoir No. 22.—*An historical Memoir on the Qutb, Delhi*, by Mr. J. A. Page, A.R.I.B.A.
5. Memoir No. 26.—*Two statues of Pallava Kings and five Pallava inscriptions in a rock temple at Mahabalipuram*, by Rao Bahadur H. Krishna Sastri, B.A.
6. Memoir No. 28.—*Bhasa and the authorship of Thirteen Trivandrum Plays*, by Mr. Hirananda Sastri, M.A., M.O.L.
7. Memoir No. 29.—*Specimens of Calligraphy in the Delhi Museum of Archæology*, by Khan Sahib Maulvi Zafar Hasan, B.A.

8. Memoir No. 31.—*The Indus Valley in the Vedic Period*, by Rai Bahadur Ramaprasad Chanda, B.A.
9. *Annual Report on South Indian Epigraphy*, for the year ending 31st March 1925.
10. *Catalogue of the Delhi Museum of Archæology*, 2nd Edition, by Mr. J. F. Blakiston.
11. Archæological Survey of India, New Imperial Series, Volume XLIX, *South Indian Inscriptions Texts, Volume V*, by Rao Bahadur H. Krishna Sastri, B.A.
12. *Corpus Inscriptionum Indicarum, Volume I, "Inscriptions of Asoka"* by Dr. E. Hultzsch, Ph.D.
13. *A Guide to Sanchi*, by Sir John Marshall, Kt., C.I.E., Litt. D., translated into Urdu by Maulvi Mohd. Hamid, B.A.
14. *Guide to the Buddhist Ruins of Sarnath*, by Rai Bahadur Daya Ram Sahni, M.A., 4th Edition.
15. *Annual Report of the Superintendent, Archæological Survey, Burma*, for the year 1926.

PHOTOGRAPHS.

Director General of Archæology.—598 photographs were taken in the Director General's office. 200 of them were of excavations, sites and antiquities at Taxila, while the remaining 398 relate to recent excavations at Mohenjo-daro. In addition to prints of the above, 1,650 prints received from the Archæological Superintendents were mounted in the albums kept for reference in the Central Archæological Library.

Northern Circle, Agra.—149 photographic negatives were prepared in the office of the Superintendent, Muhammadan and British Monuments. Of these, 107 were in connection with the conservation of ancient monuments at Agra, Delhi, Kasia and Jaunpore, 17 were of certain new exhibits in the Delhi Museum, 8 of images at the Mathura and Sarnath Museums, and 8 of the plans of Pathan buildings at Delhi.

Lahore.—In the office of the Superintendent, Hindu and Buddhist Monuments 262 negatives were prepared. Of these 212 relate to the excavation sites and antiquities at Harappa. The remaining 47 negatives were views of monuments at Jagesvara, Champawat, Garhwa, Kasia, Sahet, Sarnath and Kangra and of antiquities in the Lahore and Sarnath Museums. Three negatives (Nos. 3794-97) were transferred to the Superintendent, Archæological Survey, Frontier Circle, as they were prepared for him at his request. 408 prints were supplied to the public on payment and 46 to Archæological Officers free of cost.

Frontier Circle.—In the Frontier Circle 135 photographs were taken during the year under review, 31 of which were in connection with the conservation of the Lahore Fort, and 28 of the antiquities in the Peshawar Museum. Some 30 negatives of inscribed rocks, caskets and other antiquities or of estampages were specially prepared for Dr. Sten Konow, who is editing the post-Asokan Kharoshthi inscriptions. The remaining negatives were taken as records of the

condition of the monuments inspected by the Superintendent or for purposes of illustrating conservation and other notes.

Prints costing Rs. 59-7-0 were sold to the public including foreign visitors and archæologists in Europe and America.

Western Circle.—168 new negatives were prepared in the Western Circle. Out of the 1,231 prints prepared, 541 were supplied to the Director General for mounting in his record albums, 210 to Archæological Superintendents, and 201 were sold to the public.

Central Circle.—192 photo-negatives were prepared in the Central Circle. during 1926-27. 166 were of monuments in the Province of Bihar and Orissa and 26 in the Central Provinces. The Bihar and Orissa photographs included views of the remains excavated at Nalanda and Bulandibagh (Pataliputra), the prehistoric Jarasandh-ka-Baithak at Rajgir and the Mughal Palace at Rohtasgarh. In the Central Provinces, photographs of the Imadshahi Mosque at Fatehkhelda and a number of the Faruqi monuments at Burhanpur were taken. 276 photographs were supplied to the public and 195 to Archæological Officers. Estampages of four inscriptions in Bihar and Orissa were made and sent to the Government Epigraphist for decipherment. A revised list of photo-negatives in the Central Circle has been under preparation and will be sent to the Press for printing shortly.

Eastern Circle.—The number of photo-negatives added to the collection of the Eastern Circle totalled 348. Of this number, as many as 293 related to the conservation and excavation works at Paharpur, Rajshahi District. The distribution of the remainder was as follows:—Assam 16, the Rajshahi Museum 6, Dacca District 13, Tribeni in the Hooghly District 8, Bankura District 1, Murshidabad District 4, and Malda District 7. It was not possible for the photographic staff to bring the photo-albums up to date owing to the large increase of photographic work and to their protracted absence from head-quarters while in camp at Paharpur. 34 photographs were supplied to the public at a cost of Rs. 31, which was duly credited to Government. The demand for photographs is likely to be heavier hereafter as the list of photo-negatives corrected up to 31st October 1926 has recently been issued.

Southern Circle.—In the Southern Circle 115 photo-negatives were prepared. 502 prints at a cost of Rs. 540 were supplied to the public, the sale-proceeds being credited into the treasury. The photo prints, which are in good order and kept up to date, were inspected by a number of visitors, mostly Educational Officers.

Burma Circle.—185 new photo-negatives were added to the collection in the office of the Superintendent, Archæological Survey, Burma. Photographs were taken of a bronze lotus shrine and two bronze images of seated Buddhas, the originals of which are in the possession of private individuals at Pagan and Nyaung-oo, but most of the negatives relate to sites and antiquities discovered at Pagan and Old Prome.

Indian Museum.—81 negatives were taken in the Archæological Section of the Indian Museum during the year.

DRAWINGS.

Director General of Archæology.—In addition to "L" area surveyed personally by Mr. E. Mackay, three new drawings were prepared of the excavations at Mohenjo-daro on the scale of 10′-1″ and in various colours in order to show the different strata of buildings. For this purpose all the drawings prepared in the previous years had to be revised and new coloured tracings made. Mr. B. L. Dhama made a detailed drawing on a large scale of the tank unearthed last year and 4 other large drawings of the important buildings exposed in the B section of HR area were prepared by the draftsman. At Taxila, the drawings consisted of 4 plans and 3 sections of the diggings in the city of Sirkap and at the Kunala Monastery.

Northern Circle, Agra.—The Superintendent, Muhammadan and British Monuments, reports that the two temporary draftsmen continued the survey of the ancient monuments at Delhi and prepared measured drawings of 10 buildings. They also inked in the drawings of Humayun's tomb plotted in the previous year and traced the survey plan of the old city of Delhi, including the Lal Kot, Jahanpanah, Tughlaqabad, Adilabad and Siri. The Assistant draftsman prepared a large number of working drawings and tracings in connection with conservation works.

Northern Circle, Lahore.—The two draftsmen attached to the office of the Superintendent, Hindu and Buddhist Monuments, prepared 5 drawings of the excavations at Harappa and 5 drawings in colour of the painted pottery found there.

Frontier Circle.—41 drawings were prepared, the majority of which relate to the work in the Lahore Fort or to the conservation of monuments. A survey plan of the outer wall of the Lahore Fort has been made, which should prove of especial service, as hitherto no accurate plan of the whole Fort area has been available.

Western Circle.—Apart from several plans required in connection with the conservation of monuments, only one new drawing, namely of the Panchalesvara or Patalesvara Caves at Bhamburda, District Poona, was completed. The titles, scales, etc., of 24 drawings pertaining to the temples on the Satranjaya hill were finished and sent to the Director General.

Central Circle.—The Superintendent, Archæological Survey, Central Circle, reports that the drawings made in 1926-27 were mostly of the monuments at Nalanda, where a record was prepared of the earliest stupas that form the nucleus of the great stupa mound, Site 3, showing them in relation to the later integuments about them. Details of the lower facade of the outermost integument on the east side of this stupa were also recorded before its removal to expose the earlier structures inside. In Monastery Site No. 1, drawings were made of the sequence of three shrines that occur one over the other, projecting from the south side of the interior courtyard. Survey plans to the large scale required by the Land Acquisition Officer were prepared for

the purpose of acquiring land for an approach road to the Nalanda site across the fields, and again for a road to connect with a large tank to the west that had previously been acquired as a dumping place for spoil earth; and working drawings of an inscribed memorial pillar designed to commemorate the site of the old East India Company Factory at Firinghi-Kut, Hariharpur near Cuttack, were also made and submitted to the Local Government.

Eastern Circle.—Besides attending to the conservation and excavation work at Paharpur the draftsman completed drawings of the Paharpur excavations carried on during the year 1926-27 and two drawings of the excavations executed during the previous year were also made. Two incomplete drawings relating to the Siddhesvara temple at Bahulara in the Bankura District, Bengal and the Garhgaon palace at Nazira in Sibsagar District, Assam, were completed during the year.

Southern Circle.—During the year under review two new drawings were prepared and a few plans and tracings made for office record.

Burma Circle.—Seventeen new drawings were made, of which two were plans of the Bèbè and Lemyethna temples at Hmawza, the remainder being plans and sections of excavation sites at Hmawza (Old Prome) and Pagan.

PERSONNEL.

During Sir John Marshall's absence on deputation and leave Mr. J. F. Blakiston continued to officiate as Director General and Rai Bahadur Daya Ram Sahni as Deputy Director General. Rai Bahadur Daya Ram Sahni was appointed to the newly created temporary post of Deputy Director General for Exploration with effect from the 11th November, 1926, and the post of Deputy Director General remained vacant from that date to 28th January, 1927, Mr. Blakiston holding the dual charge of Director and Deputy Director during this period. On Sir John Marshall's return on the 28th January, 1927, Mr. Blakiston reverted to the post of Deputy Director General. Mr. E. J. H. Mackay, was appointed in November to one of the newly created posts of Assistant Superintendent for Exploration. Mr. K. N. Dikshit, Superintendent, Archæological Survey, Western Circle, was granted leave on average pay for 6 weeks with effect from the 23rd February, 1926, and an extension of 6 months' leave on medical certificate was also given to him in continuation. Mr. G. C. Chandra, Assistant Superintendent, Western Circle, officiated for him. On the expiry of the leave (on 5th October 1926) Mr. Dikshit was transferred to the Eastern Circle. He took charge of the Eastern Circle, from the Superintendent, Archæological Section, Indian Museum, Calcutta, on the 18th October 1926. Mr. R. D. Banerji, was suspended with effect from the 16th August, 1926, and has since been removed from Govt. service with effect from that date. The Superintendent, Archæological Section, Indian Museum, Calcutta, held charge of the Eastern Circle in addition to his own duties with effect from the above date, till Mr. K. N. Dikshit relieved him. There were no changes in the officer personnel of the Frontier, Burma, Northern (Agra and Lahore), or Western Circles nor in the Epigraphical Branch of the

Archæological Department. Messrs. Duroiselle and G. Venkoba Rao were granted one year's extension of service from the 25th June and the 16th May 1927, respectively. Mr. A. H. Longhurst, Superintendent, Archæological Survey, Southern Circle, proceeded on 10 months' leave from the 1st March, 1926, and was granted an extension of 2 months and 8 days' leave in continuation, with effect from the 1st January, 1928. Mr. Muhammad Hamid Kuraishi, Assistant Superintendent, Archæological Survey, Central Circle, officiated as Superintendent, Archæological Survey, Southern Circle, during his absence. Mr. Kuraishi's place in the Central Circle remained vacant and Mr. Page continued to perform the dual functions of the Superintendent and Assistant Superintendent, Central Circle, till the 22nd July, 1926, when he proceeded on leave on average pay foı 3 months. Mr. B. L. Dhama, Assistant Superintendent for Central India and Rajputana, officiated as Superintendent during the period of Mr. Page's leave. Mr. Page returned from leave in October as Superintendent in the Central Circle, and Mr. Dhama reverted to his original post. On reversion Mr. Hamid returned to the Central Circle as Assistant Superintendent on the 28th March, 1928.

SCHOLARSHIPS.

In January, 1926, the Government of India sanctioned the revival of three scholarships, *viz.*, (1) for Sanskrit, (2) for Persian and Arabic and (3) for Architecture, for the training of Indians in connection with exploration.

The following scholars were selected by a Committee of three members consisting of the Director-General of Archæology, the Educational Commissioner with the Government of India and Sir Hari Singh Gour, and were appointed with the approval of the Government of India with effect from the dates specified.

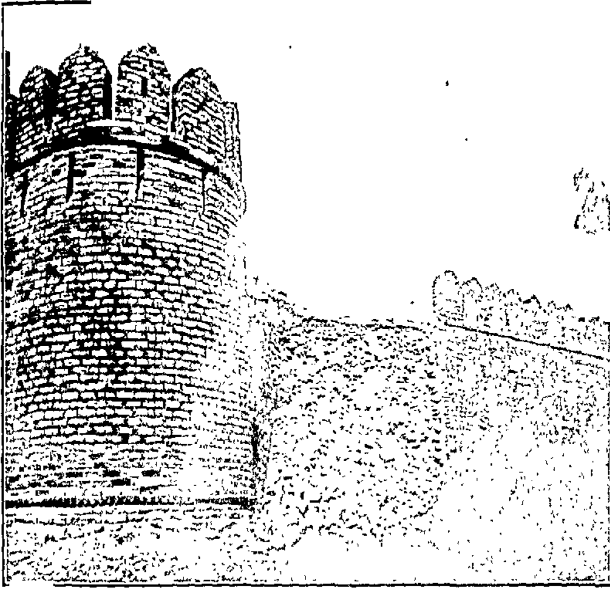
1. Mr. Hargovind Lal Srivastava, M.A., Sanskrit Scholar, 23rd September, 1926.
2. ,, Qureshi Mohammad Moneer, B.A., Persian and Arabic Scholar, 15th September, 1926.
3. ,, Shib Charan Mukherji, B.A., Architectural Scholar, 1st November, 1926.

APPENDIX.

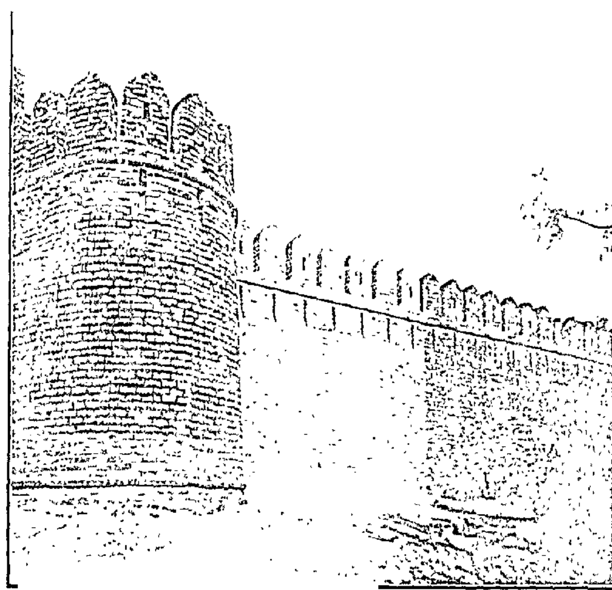
Additions to Departmental Libraries.

Name of office.	Books purchased.	Books presented.	Total.	Remarks.
Director General	200	250	450	
Northern Circle—				
Muhammadan and British Monuments	30	34	64	
Hindu and Buddhist Monuments	49	24	73	
Frontier Circle	26	14	40	
Western Circle	21	33	54	In addition to these, 27 periodicals and reports were received free of cost.
Central Circle	11	24	35	
Eastern Circle	23	32	55	
Southern Circle	15	37	52	
Burma Circle	54	157	211	
Government Epigraphist	147	100	247	
Assistant Archæological Superintendent for Epigraphy, Southern Circle.	46	54	100	Includes 14 publications received in exchange.
Archæological Chemist	15	8	23	
Archæological Section, Indian Museum	60	62	122	

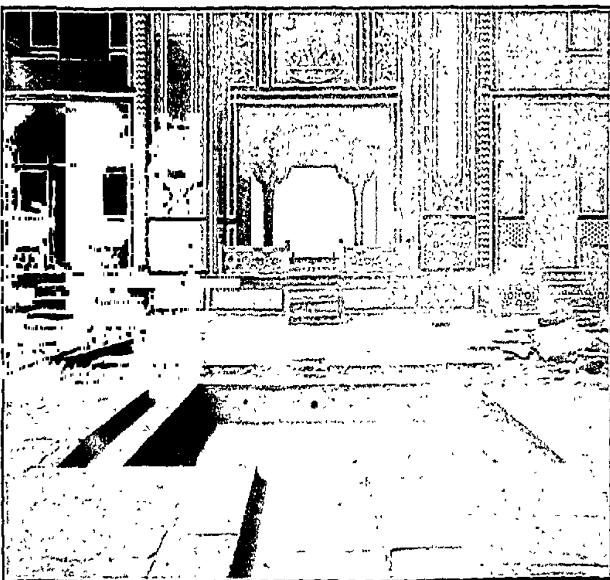
MGIPC—M—III-9-46—25-9-30—500.



a. FATHPUR SIKRI, CITY WALL NEAR AGRA GATE, SHOWING THE PORTION COLLAPSED, BEFORE CONSERVATION.



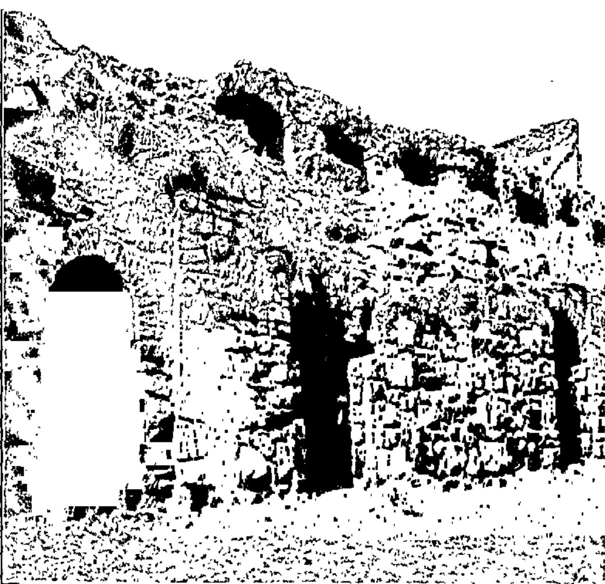
b. FATHPUR SIKRI, CITY WALL NEAR AGRA GATE, AFTER CONSERVATION.



c. ITIMADU-D-DAULA'S TOMB, AGRA, SHOWING THE TANK RECENTLY DISCOVERED.



d. JAGNER FORT, BHAKSI (OR DUNGEON) RECENTLY DISCOVERED.



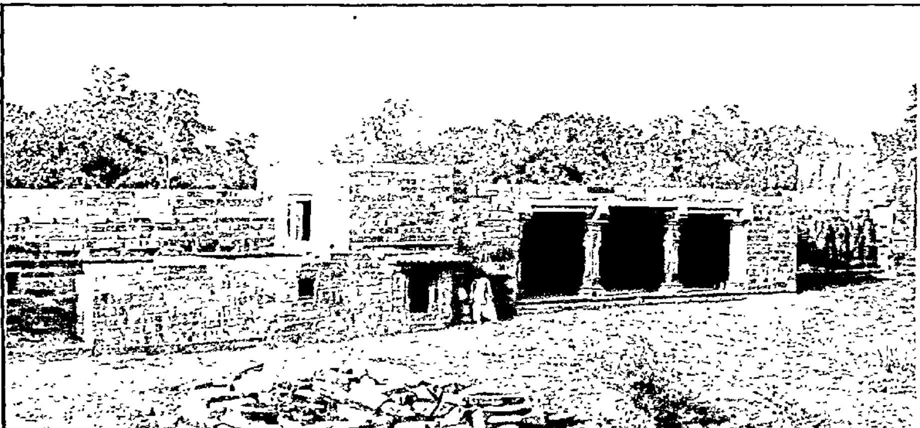
e. MOSQUE AT KOTLA FIROZ SHAH, BASEMENT STOREY, BEFORE CONSERVATION.



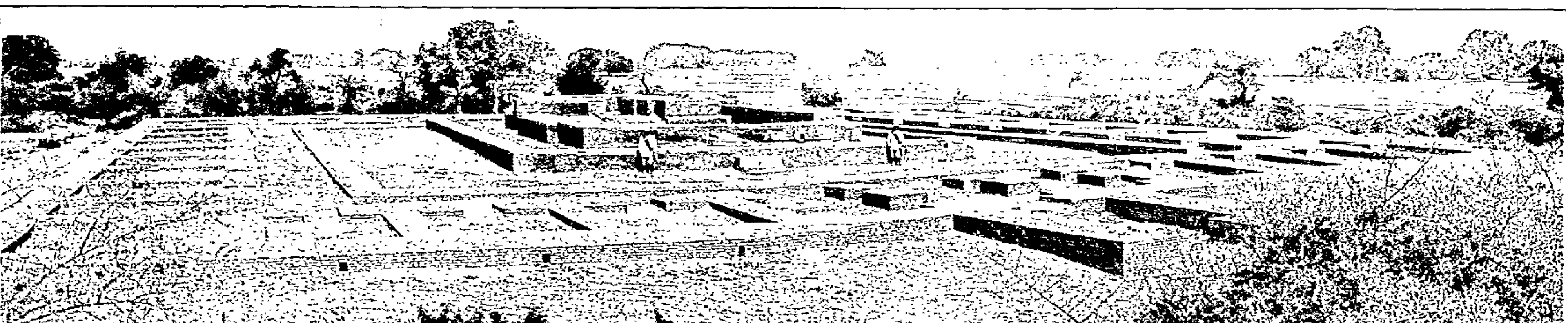
f. MOSQUE AT KOTLA FIROZ SHAH, BASEMENT STOREY, AFTER CONSERVATION.



a. SARNATH: NORTH RETAINING WALL OF THE FORE-COURT OF THE MAIN SHRINE, AFTER CONSERVATION.

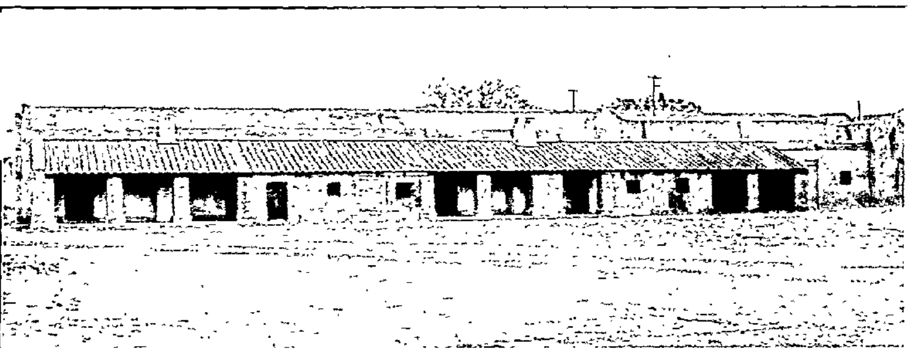


b. GARHWA: SHRINES 3, 4 AND 5 AFTER CONSERVATION.



c. SAHETH: GENERAL VIEW OF MONASTERY I, AFTER CONSERVATION.

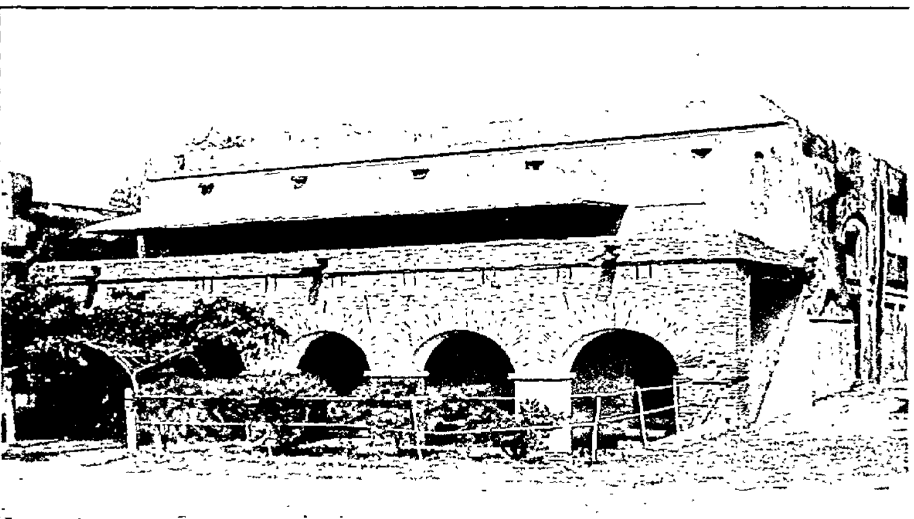
Photo-engraved & printed at the Offices of the Survey of India, Calcutta, 1929



a. LAHORE FORT: BACK OF BUILDING NO. 34, WITH MODERN VERANDAH.



b. LAHORE FORT: BUILDING NO. 34, AFTER REMOVAL OF VERANDAH.

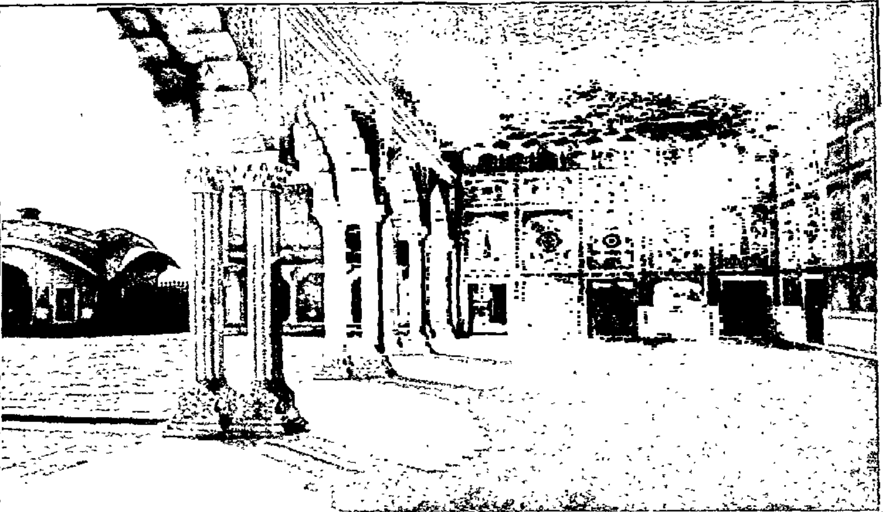


c. LAHORE FORT: BUILDING NO. 38, WITH MODERN VERANDAH.

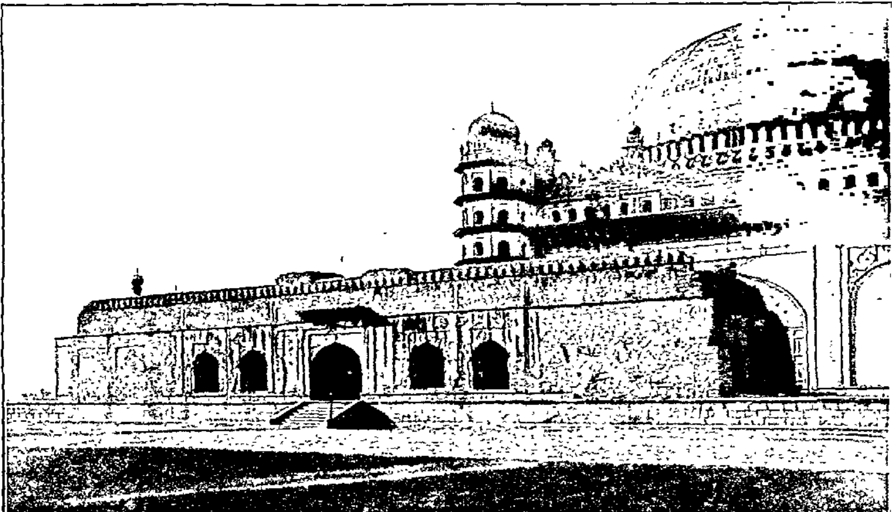


d. LAHORE FORT: BUILDING NO. 38, AFTER REMOVAL OF VERANDAH.

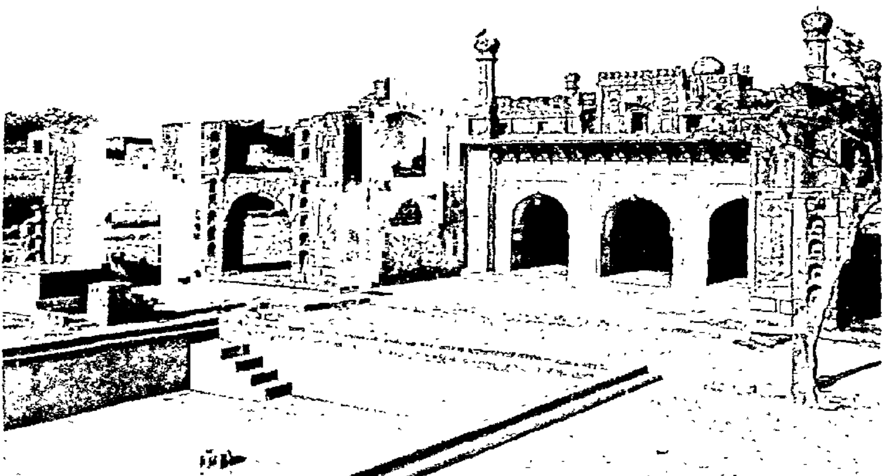
Photo-engraved & printed at the Offices of the Survey of India, Calcutta, 192[illegible].



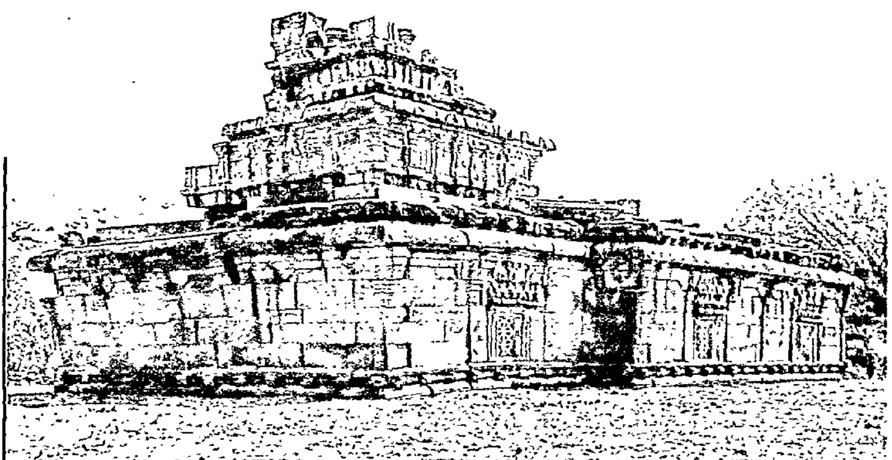
a. LAHORE FORT: SHISH MAHAL, SHOWING INTERIOR GLASS DECORATION.



b. BIJAPUR: ENTRANCE TO THE PLATFORM OF GOL GUMBAZ, AFTER CONSERVATION.



c. BIJAPUR: CHHOTA ASAR MASJID, AFTER CONSERVATION.



d. NAREGAL: NAGANATH TEMPLE; VIEW FROM SOUTH-WEST CORNER.

Photo-engraved & printed at the Offices of the Survey of India, Calcutta, [illegible]

PLATE V.



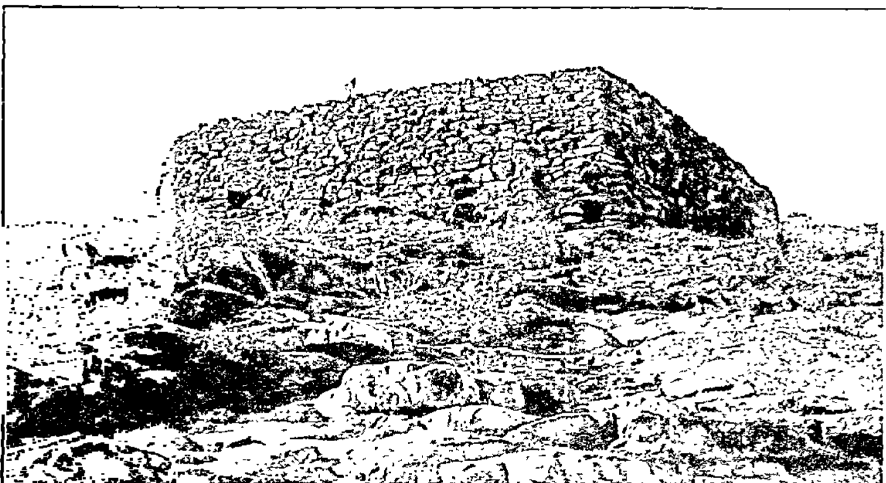
a. BHAMBURDA: CIRCULAR MONOLITHIC NANDI PAVILION, AFTER PRELIMINARY CONSERVATION.



b. BHAMBURDA: STEPS AND ENTRANCE TO THE CAVES.



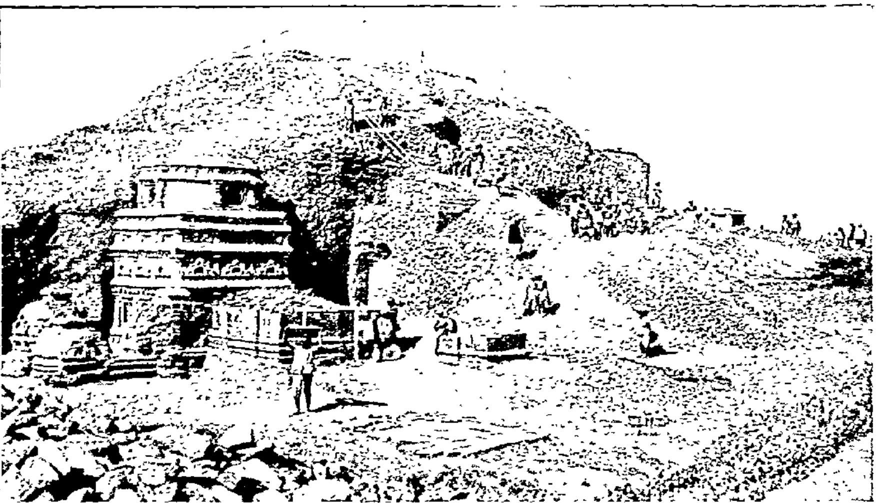
c. JOGESVARI: SCULPTURED PANELS OVER THE FOURTH DOOR TO THE MAIN CAVE.



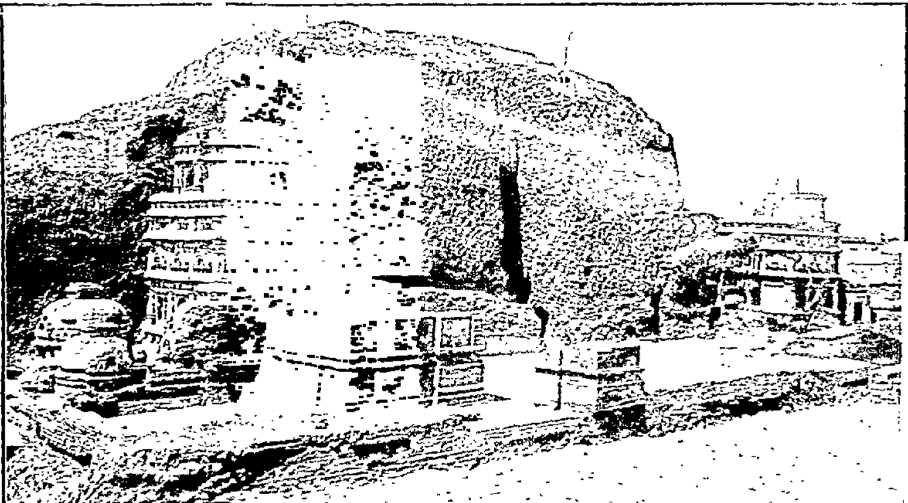
d. RAJGIR: JARASANDH-KA-BAITHAK AFTER REPAIR.

Photo-engraved & printed at the Offices of the Survey of India, Calcutta,

PLATE VI.



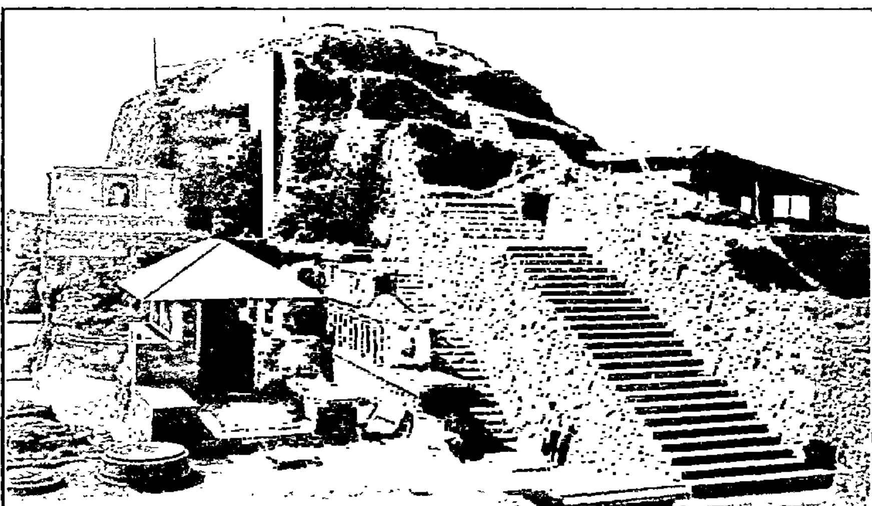
a. NALANDA: STUPA SITE 3; S.-E CORNER TOWER OF 5TH STUPA, BEFORE FURTHER EXCAVATION TO REVEAL EAST FRONT OF STUPA; FROM S.-E.



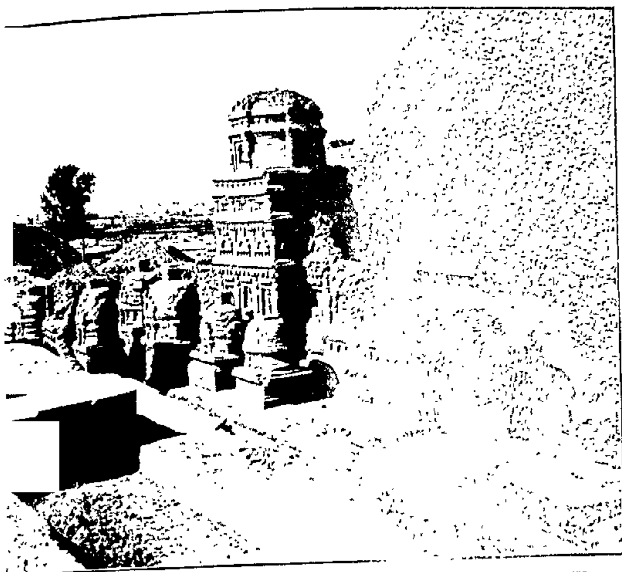
b. NALANDA: STUPA SITE 3. S-E CORNER TOWER OF 5TH STUPA AS FURTHER EXCAVATED, SHOWING BOTH CORNER TOWERS AND RUINS OF CONNECTING FACADE; FROM S.-E.



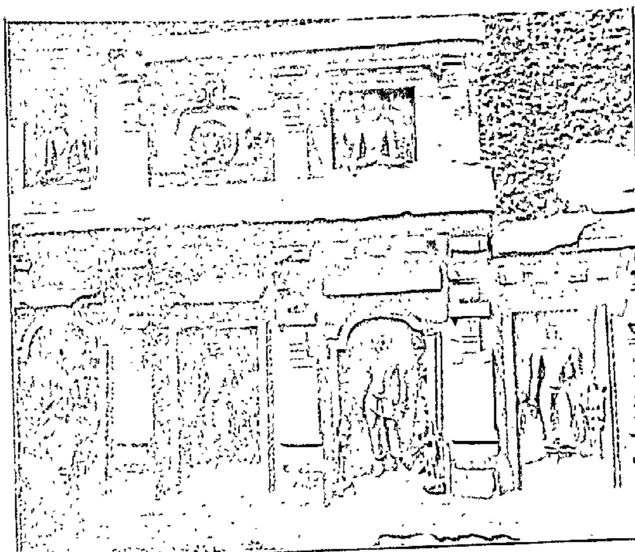
c. NALANDA: STUPA SITE 3; NORTH STAIRS UP TO BERMS OF 5TH AND 6TH STUPAS AS EXCAVATED AND BEFORE CONSERVATION; FROM N.-E.



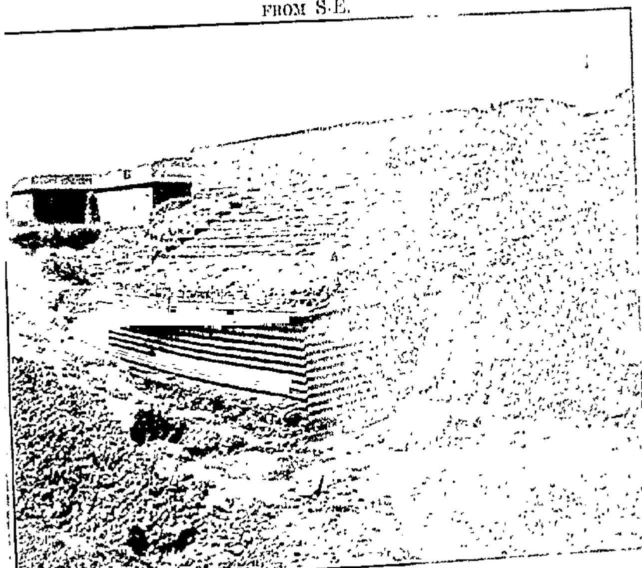
d. NALANDA: STUPA SITE 3; NORTH STAIRS UP TO BERMS OF 5TH AND 6TH STUPAS, AFTER CONSERVATION; FROM N.-E.



a. NALANDA: STUPA SITE 3:-S-E CORNER TOWER SHOWING RUINED FACADE OF 5TH STUPA AND OF 4TH STUPA INSIDE IT, WITH THE HEARTING OF THE 6TH STUPA SUPPORTED ON CONCRETE LINTELS: FROM S-E.



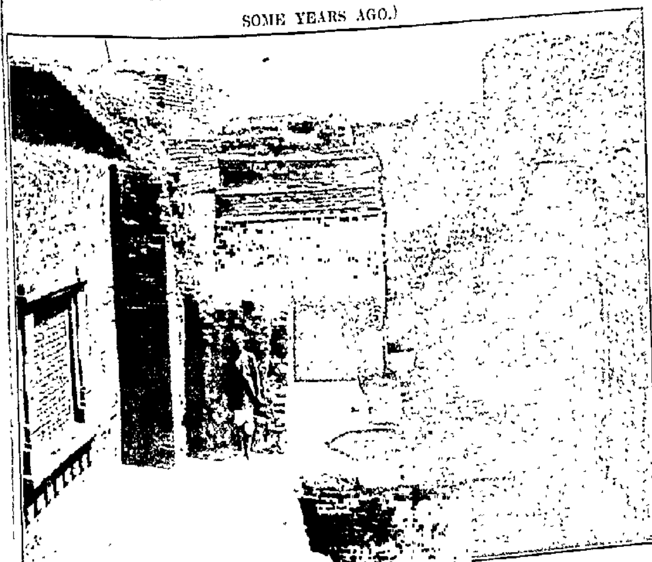
b. NALANDA: STUPA SITE 3; STAIR OF 5TH STUPA; EXTERIOR OF STAIR / SIDE-WALL SHOWING DECORATIVE TREATMENT WITH [illegible] FIGURES OF BUDDHA AND BODHISATTVA; FROM EAST.



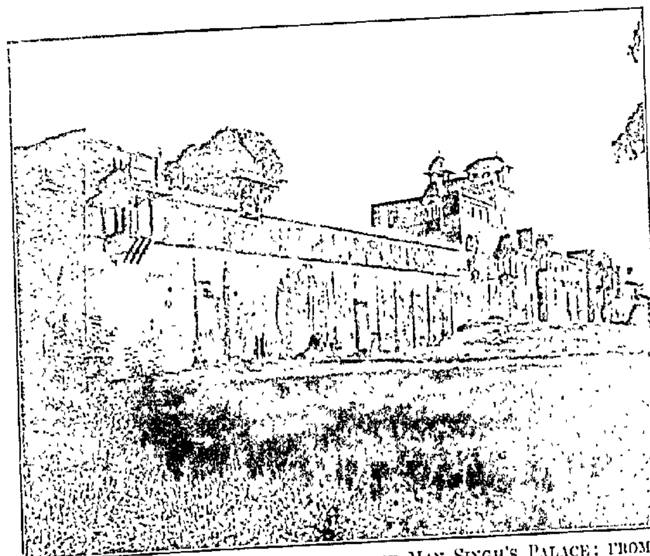
c. NALANDA: MONASTERY SITE NO. 1. MAIN ENTRANCE: EXTERNAL STAIR OF LATER MONASTERY SHOWING UNDERPINNING IN PROGRESS WITH INNER BRICK-HEARTING IN POSITION; FROM S-W (THE STEPPED SIDE-WALL OF STAIR IS AN INCORRECT REPAIR BY THE PUBLIC WORKS DEPARTMENT SOME YEARS AGO.)



d. NALANDA: MONASTERY SITE NO. 1. MAIN ENTRANCE; AFTER COMPLETION OF UNDERPINNING WITH A FACING OF ROUGH CONCRETE TO REPRESENT THE ORIGINAL DEBRIS, AND RE-CONSTRUCTION OF ORIGINAL STAIR TREADS AND SIDE-WALLS.



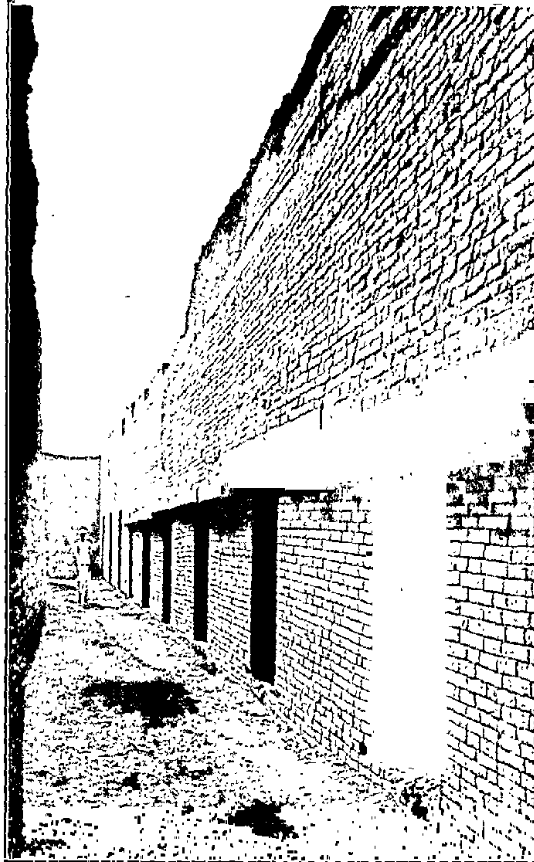
e. NALANDA: MONASTERY SITE NO. 1; MAIN WEST ENTRANCE EXCAVATED TO DEVA-PALA LEVEL, SHOWING BACK WALL OF LATER MONASTERY SUPPORTED ON CONCRETE-FACED UNDERPINNING TO REPRESENT ORIGINAL DEBRIS FOUND BENEATH IT; FROM WEST.



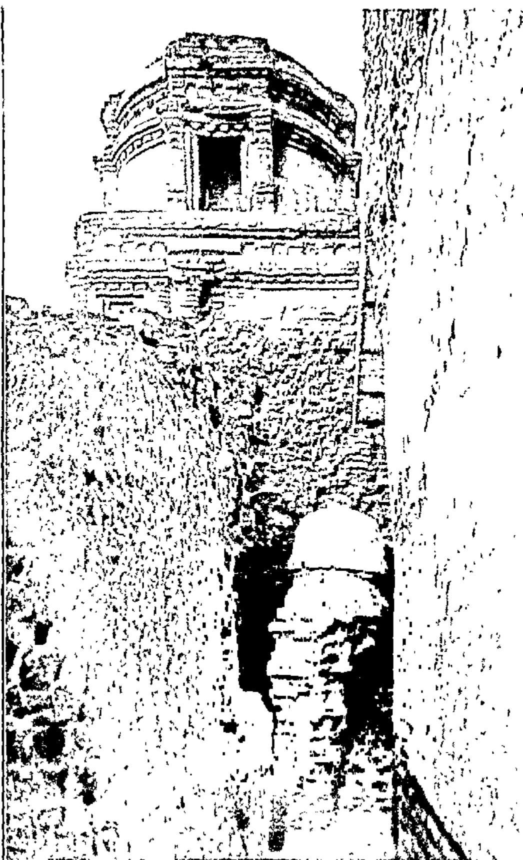
f. ROHTASGARH: MAIN WEST FACADE OF MAN SINGH'S PALACE: FROM N-W. (THE HIGH BUILDING IN THE CENTRE IS THE DARBAR HALL.)



a. NALANDA: MONASTERY SITE NO. 1. SOUTH VERANDAH AS EXCAVATED TO "DEVAPALA" LEVEL AND BEFORE REPAIR; FROM WEST.



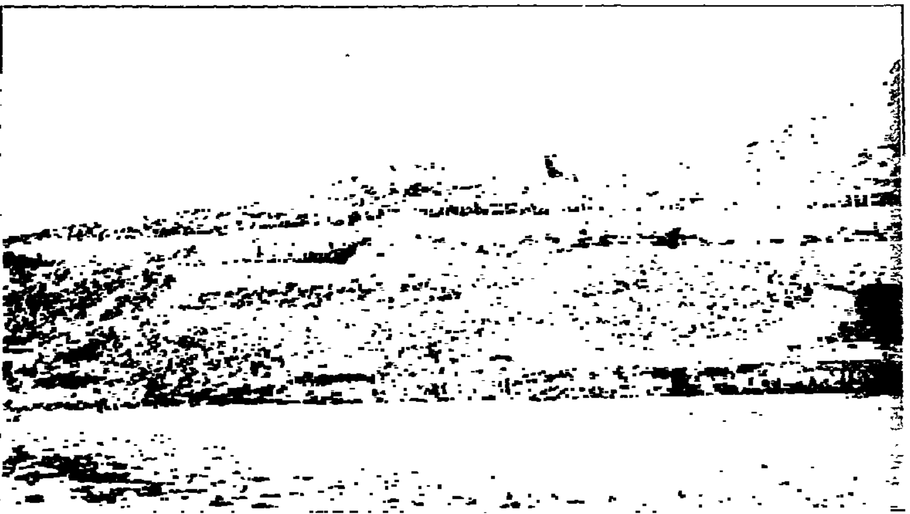
b. NALANDA: MONASTERY SITE NO. 1. SOUTH VERANDAH AFTER REPAIR, SHOWING LATER WALL ABOVE, SUPPORTED ON ITS ORIGINAL ALIGNMENT WITH REINFORCED CONCRETE LINTELS, AND CELL DOORWAYS OF "DEVAPALA" MONASTERY BELOW, AS REPAIRED; FROM WEST.



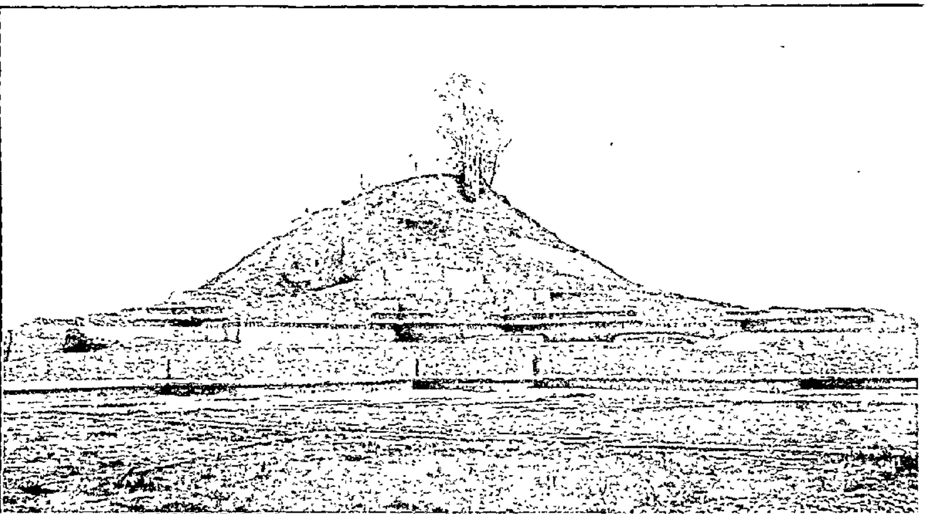
c. NALANDA: STUPA SITE 3; SHOWING LITTLE CORNER TOWER OF 4TH STUPA INSIDE LARGE CORNER TOWER OF 5TH STUPA; FROM NORTH.



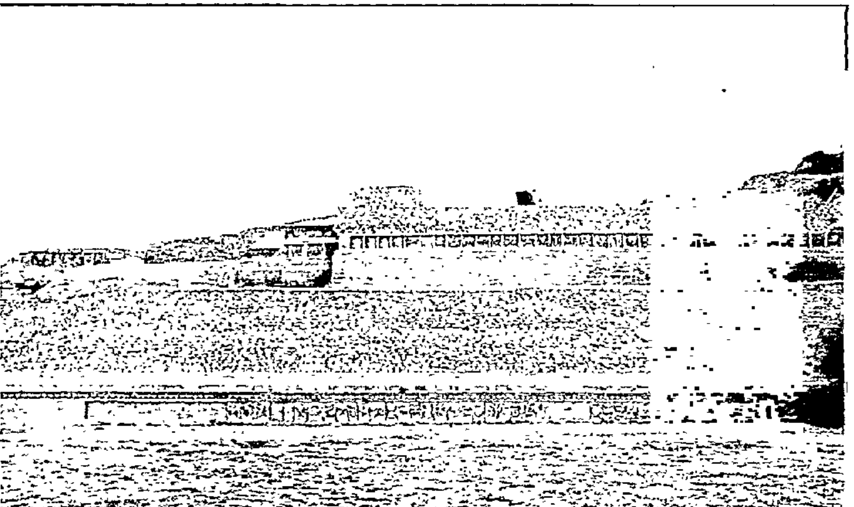
d. NALANDA: STUPA SITE 3, STAIR OF 5TH STUPA; STUCCO IMAGE OF AVALOKITESVARA ON SIDE WALL OF STAIR.



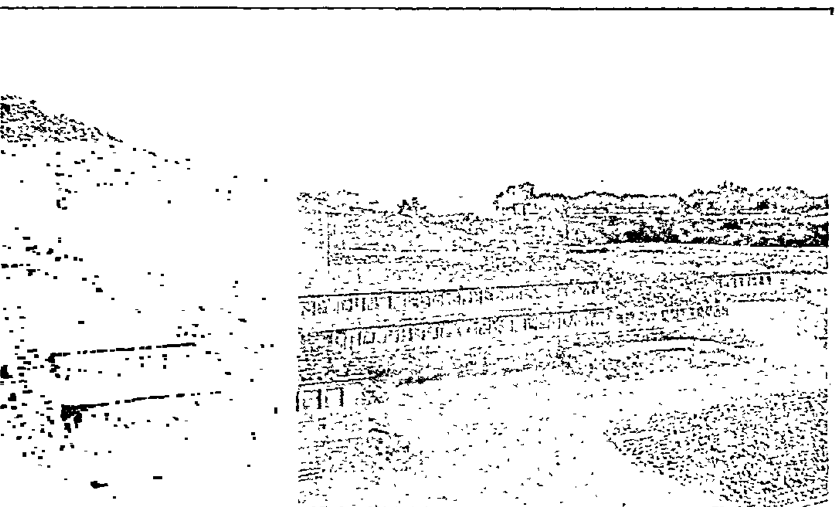
a. PAHARPUR: GENERAL VIEW OF LONG WALL AT NORTH-WEST ANGLE, BEFORE CONSERVATION.



b. PAHARPUR: GENERAL VIEW OF EXCAVATED TEMPLE FROM NORTH-WEST, AFTER CONSERVATION.

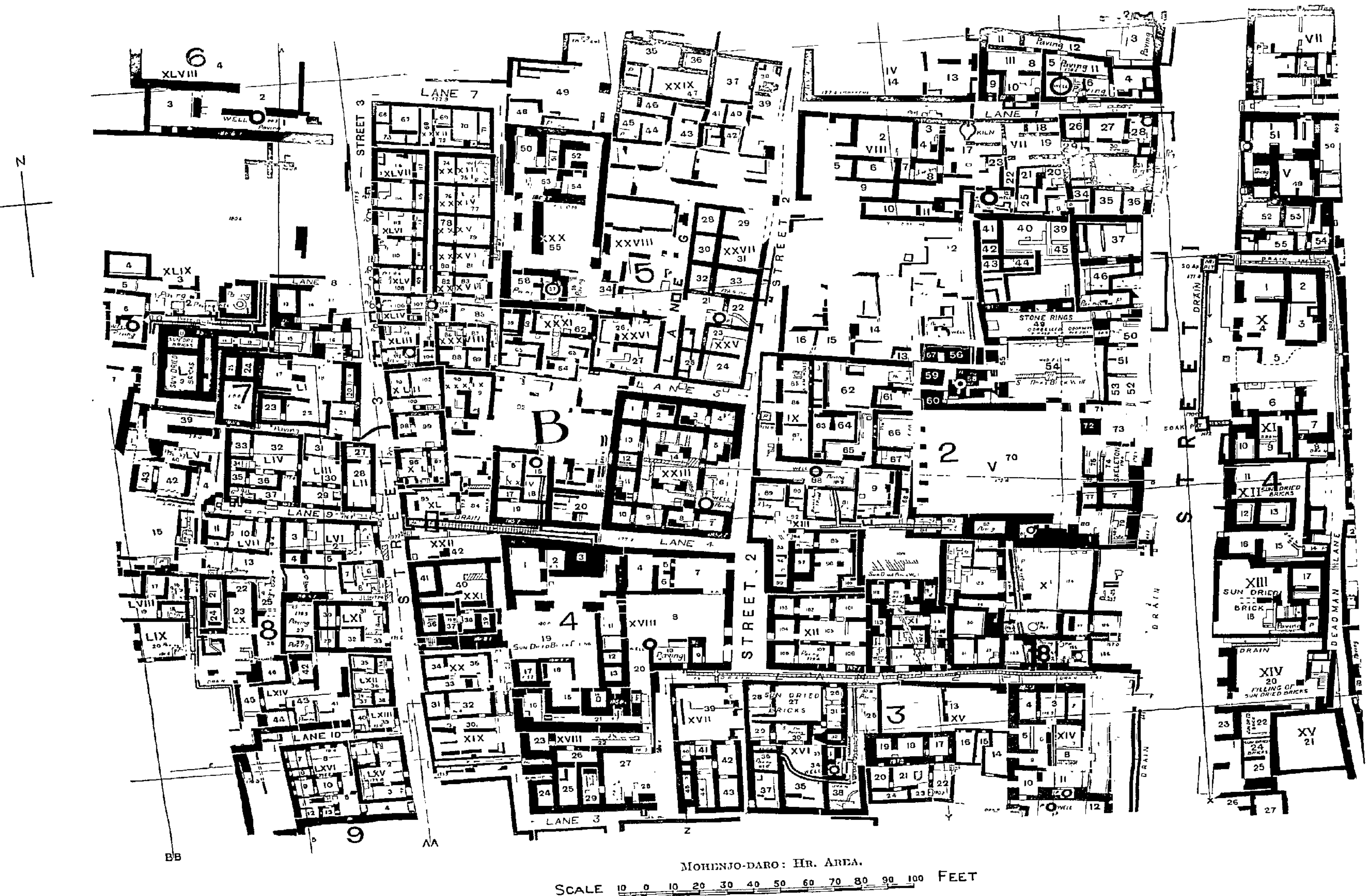


c. PAHARPUR: THE SAME AS ABOVE (*a*) AFTER CONSERVATION.



d. PAHARPUR: GENERAL VIEW OF FIRST TERRACE VERANDAH AT NORTH-WEST CORNER, AFTER CONSERVATION.

Photo-engraved & printed at the Offices of the Survey of India, Calcutta, [illegible]



MOHENJO-DARO: HR. AREA.

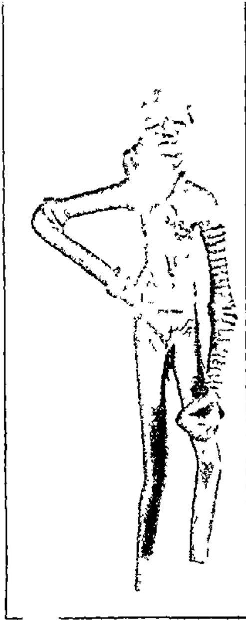
SCALE 10 0 10 20 30 40 50 60 70 80 90 100 FEET



a. Mohenjo-daro: Hr. Area, Section B; General view of excavations.



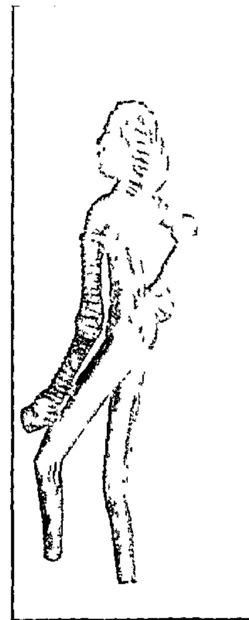
b. Mohenjo-daro: Hr. Area, Section B; House No. IX, from West.



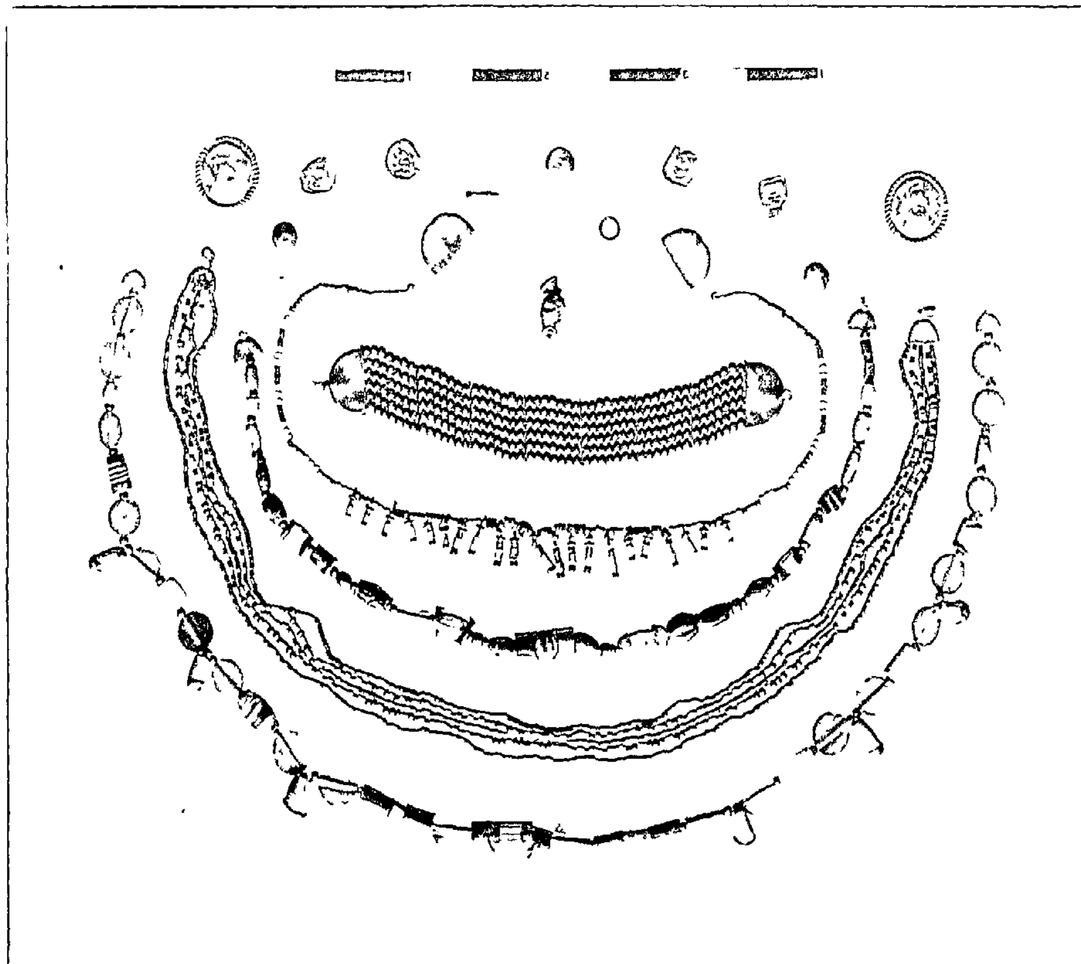
c MOHENJO-DARO BRONZE STATUETTE OF A DANCING GIRL FROM HOUSE NO LV.



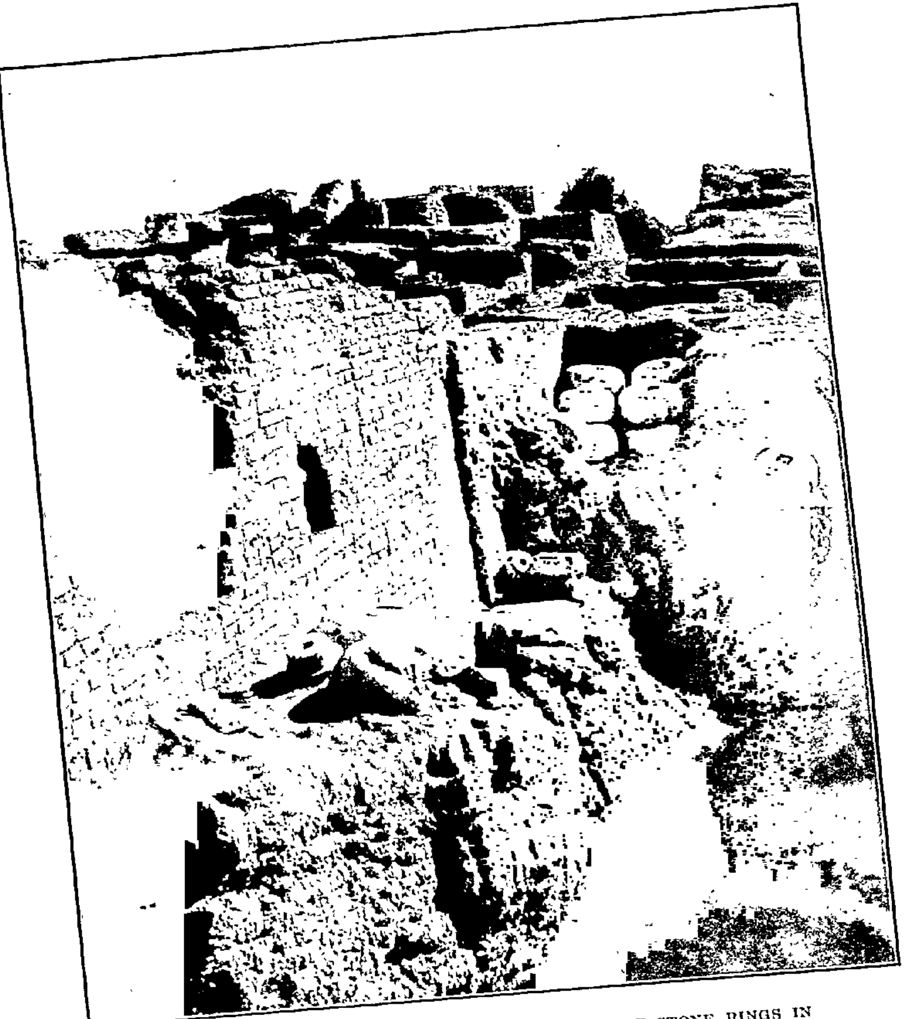
a MOHENJO-DARO: HR AREA, SECTION B TWO SILVER VASES SHOWING TRACES OF COTTON CLOTH IN WHICH THEY WERE WRAPPED, FROM HOUSE NO. VIII.



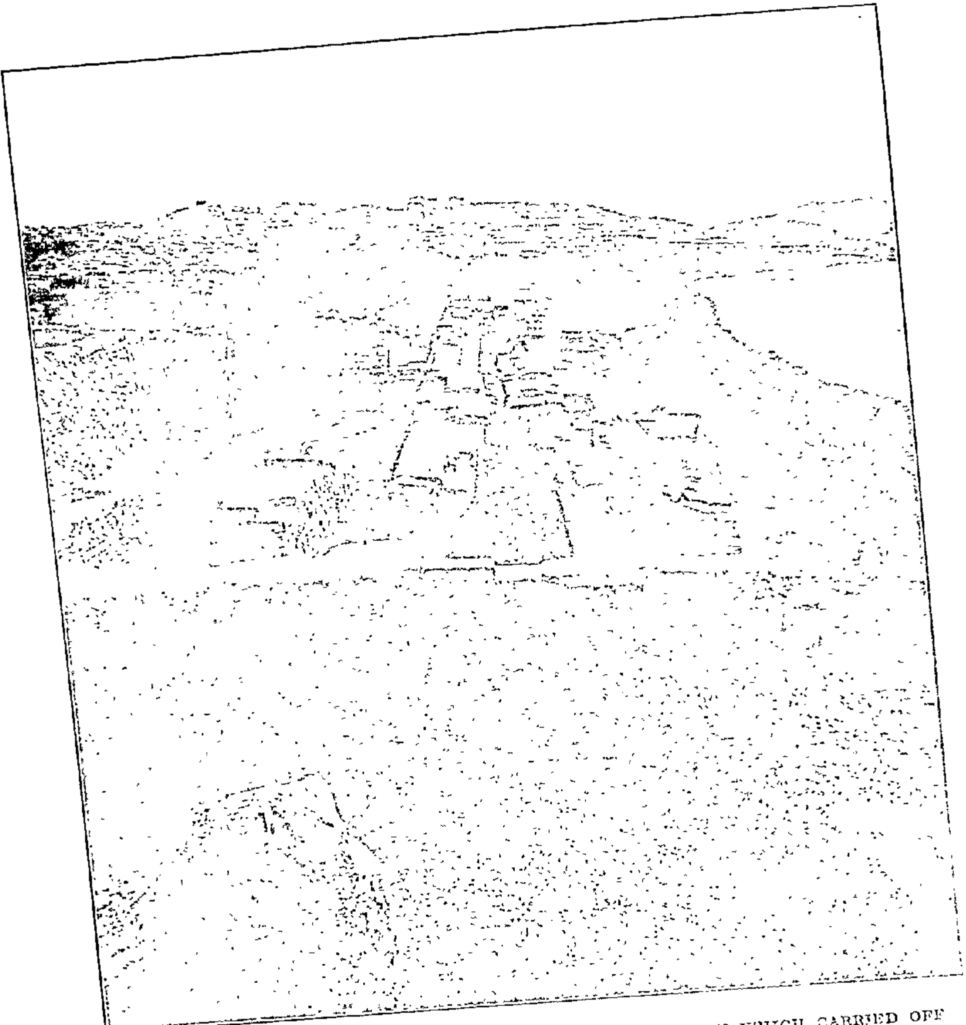
d THE SAME AS *c* SIDE VIEW



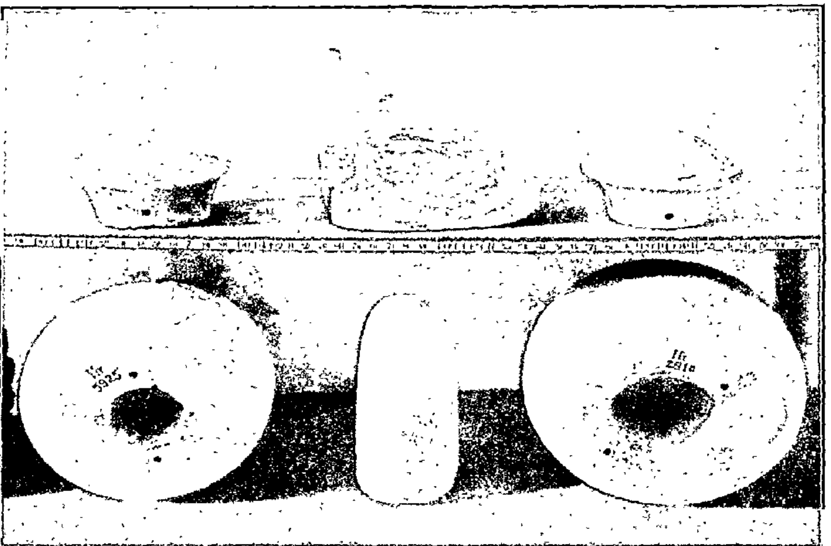
b. MOHENJO-DARO: HR. AREA. SECTION B. GOLD, SILVER, FAIENCE AND OTHER BEADS, FROM HOUSE NO. VIII.



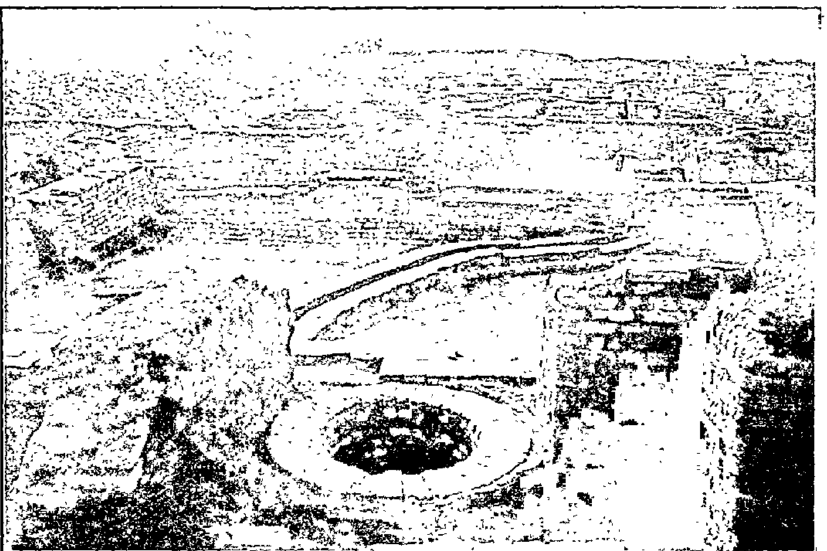
a. MOHENJO-DARO: HR. AREA. COLLECTION OF STONE RINGS IN HOUSE NO. V.



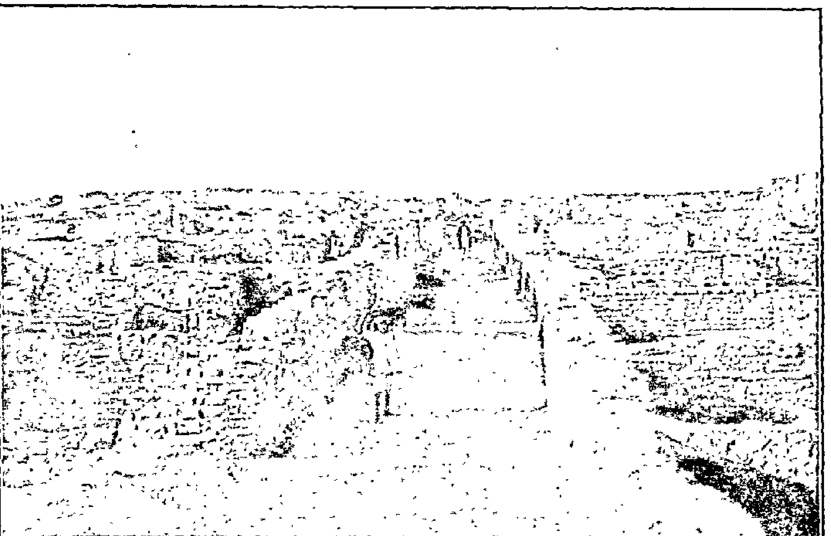
b. MOHENJO-DARO: HR. AREA. CHUTE AND VAULTED DRAIN WHICH CARRIED OFF WATER FROM HOUSE NO. XVIII.



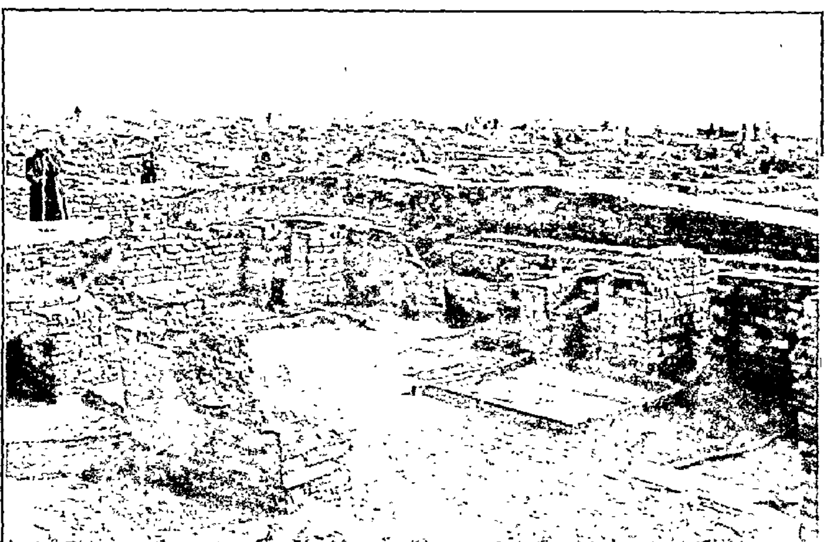
a. MOHENJO-DARO: HR. AREA. STONE RINGS, ROUND CAPS, A SQUARE CAPITAL AND A LINGA *SHAPED CONE*, HOUSE NO. V.



b. MOHENJO-DARO: HR. AREA. HOUSE NO. XVI, FROM EAST.



c. MOHENJO-DARO: HR. AREA. VIEW IN STREET 3.



d. MOHENJO-DARO: HR. AREA. HOUSE NO. XLIX, SHOWING TWO PRIVIES AND BATHS.

MOHENJO-DARO.

L. AREA

1926-27

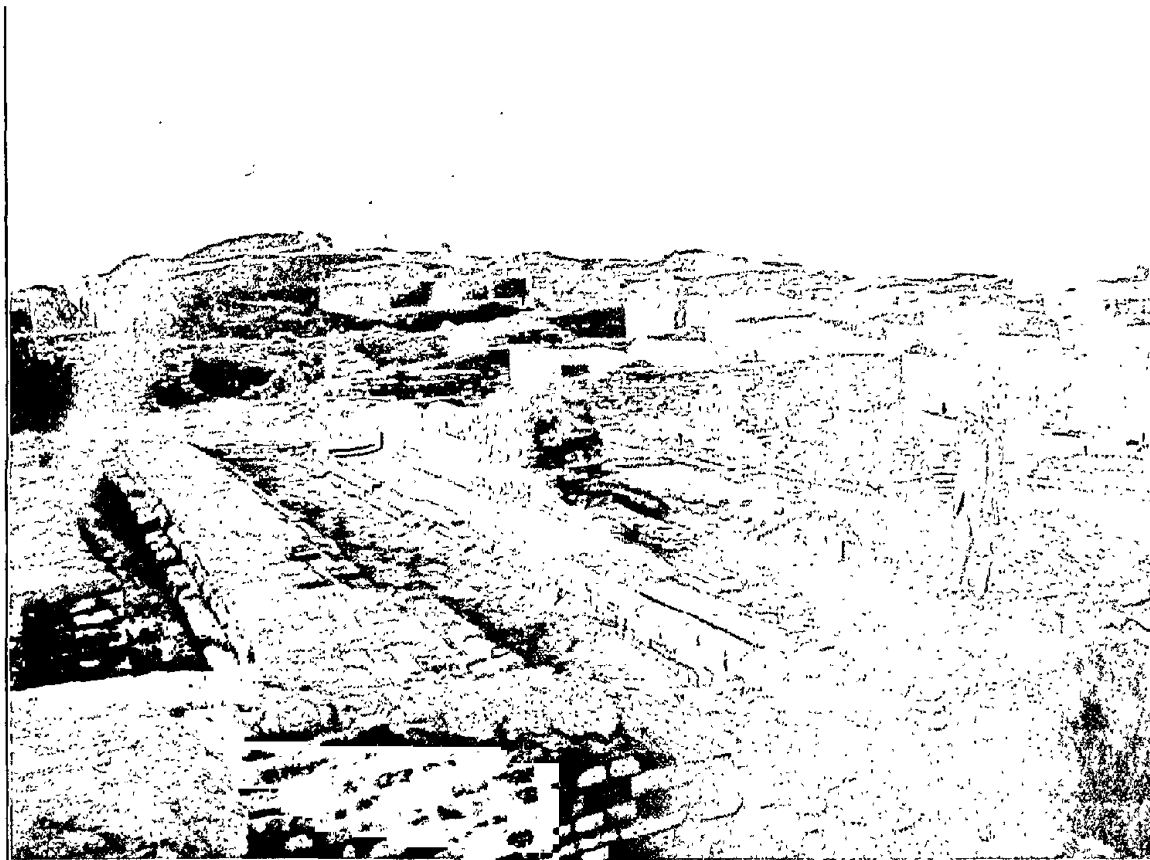
MOHENJO-DARO: PLAN OF L. AREA.



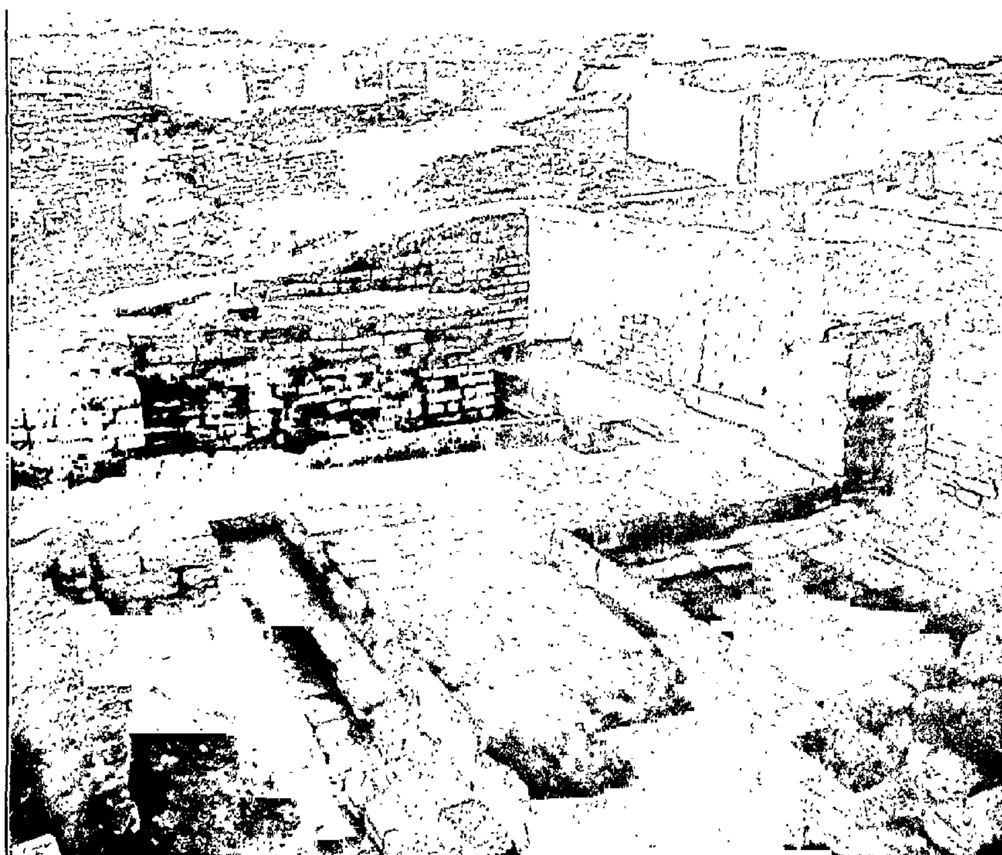
a. MOHENJO-DARO: L. AREA. GENERAL VIEW OF THE MOUND, SHOWING THE NORTHERN END OF COLUMNED WALL.



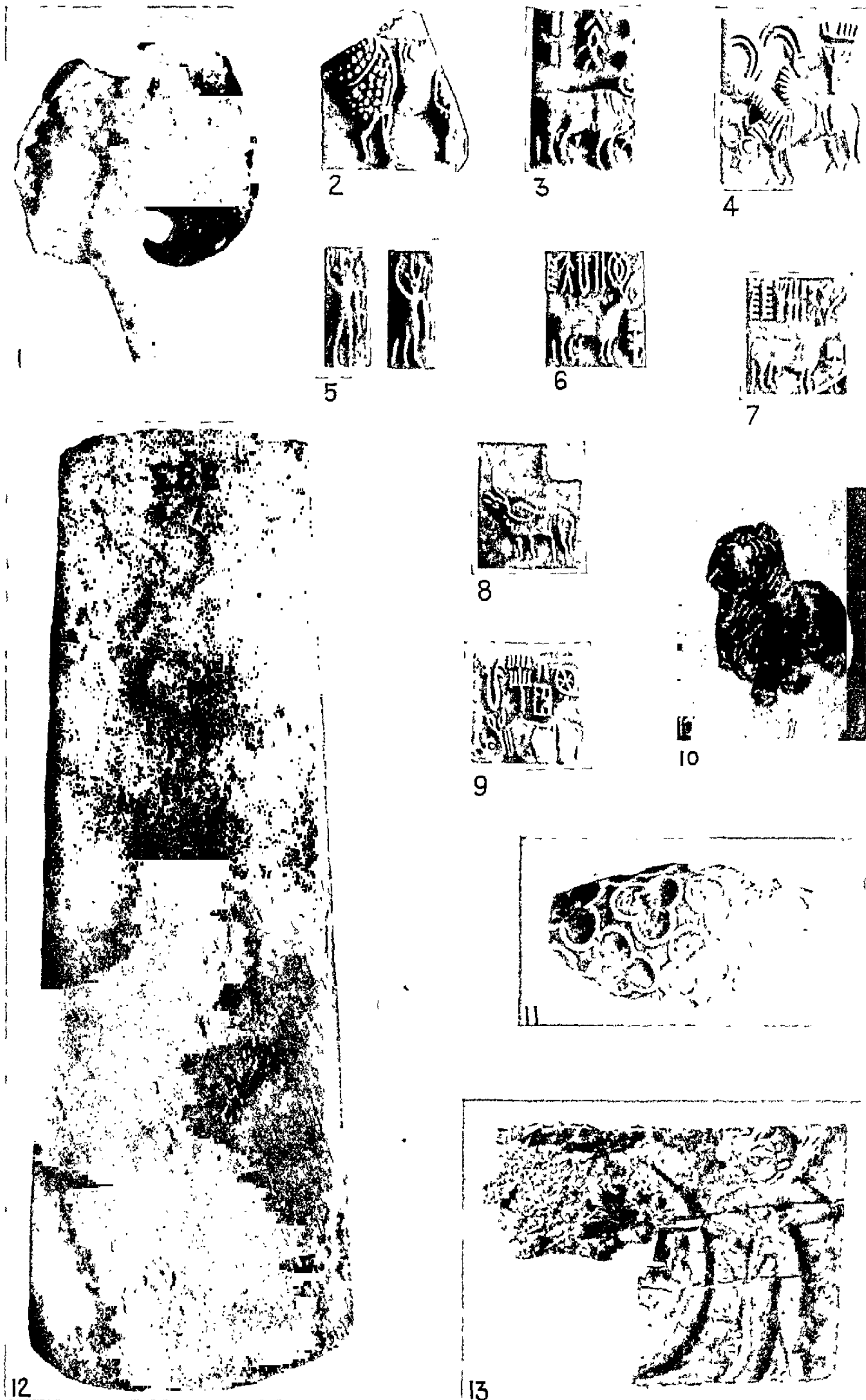
b. MOHENJO-DARO: L. AREA. VIEW OF STREET 40 FROM THE NORTH.



a. MOHENJO-DARO: L. AREA, SHOWING SECTION 32 OF COLUMNED HALL, FROM NORTH-WEST.

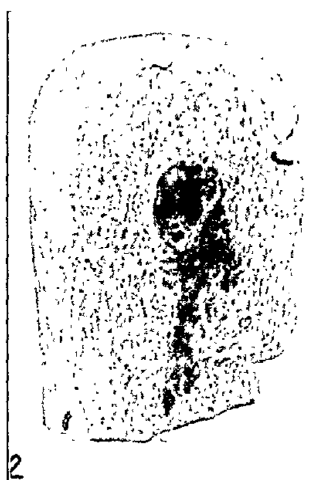


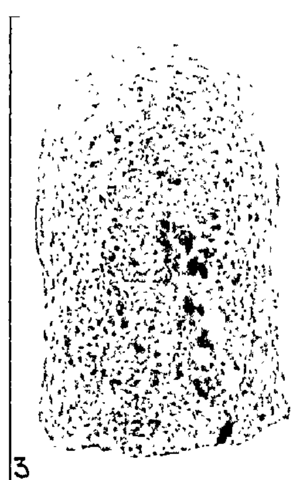
b. MOHENJO-DARO: L. AREA, SHOWING SECTION 26 OF COLUMNED HALL, FROM NORTH-EAST.

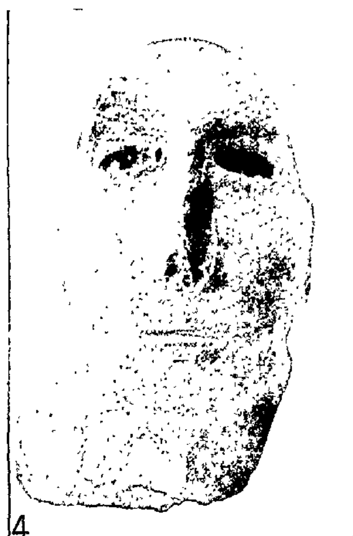


MOHENJO DARO: OBJECTS FROM L AREA.

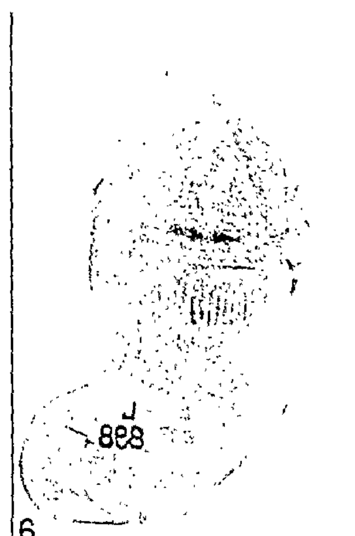


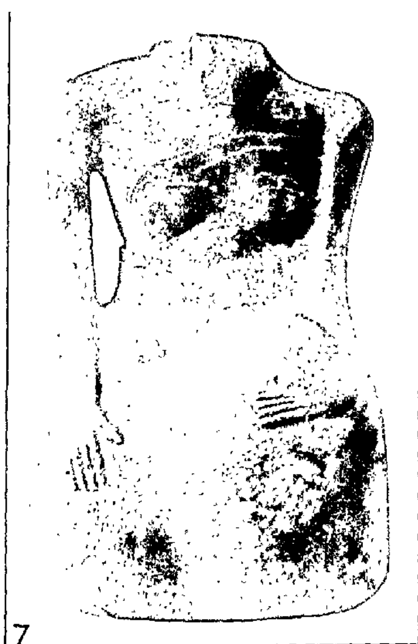


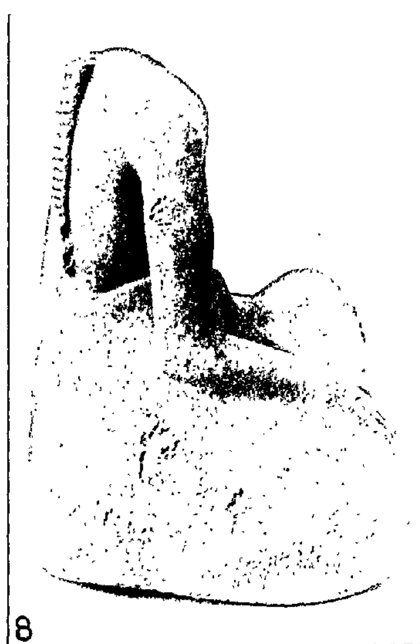


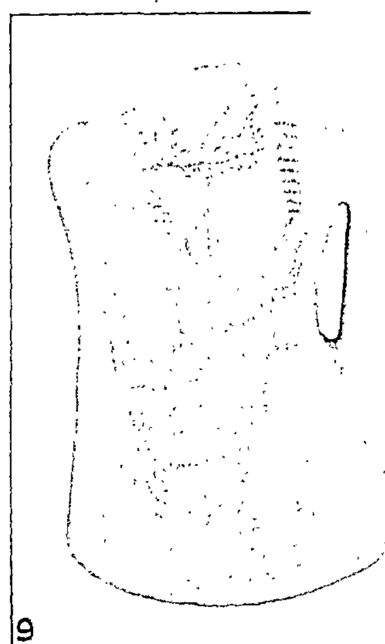




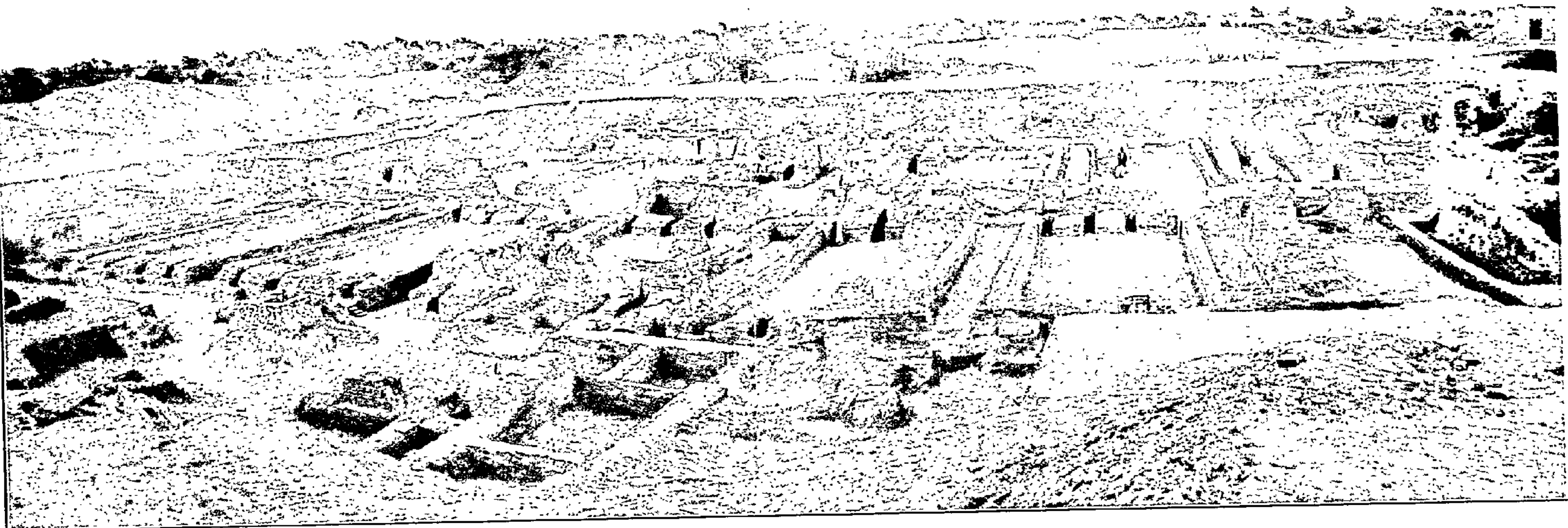




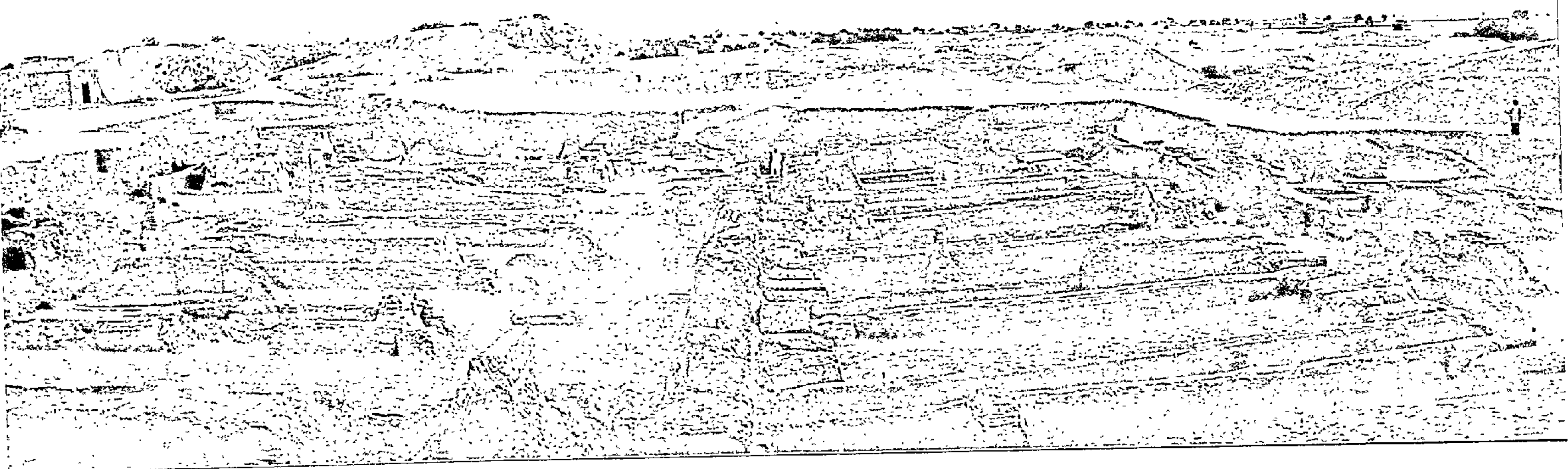




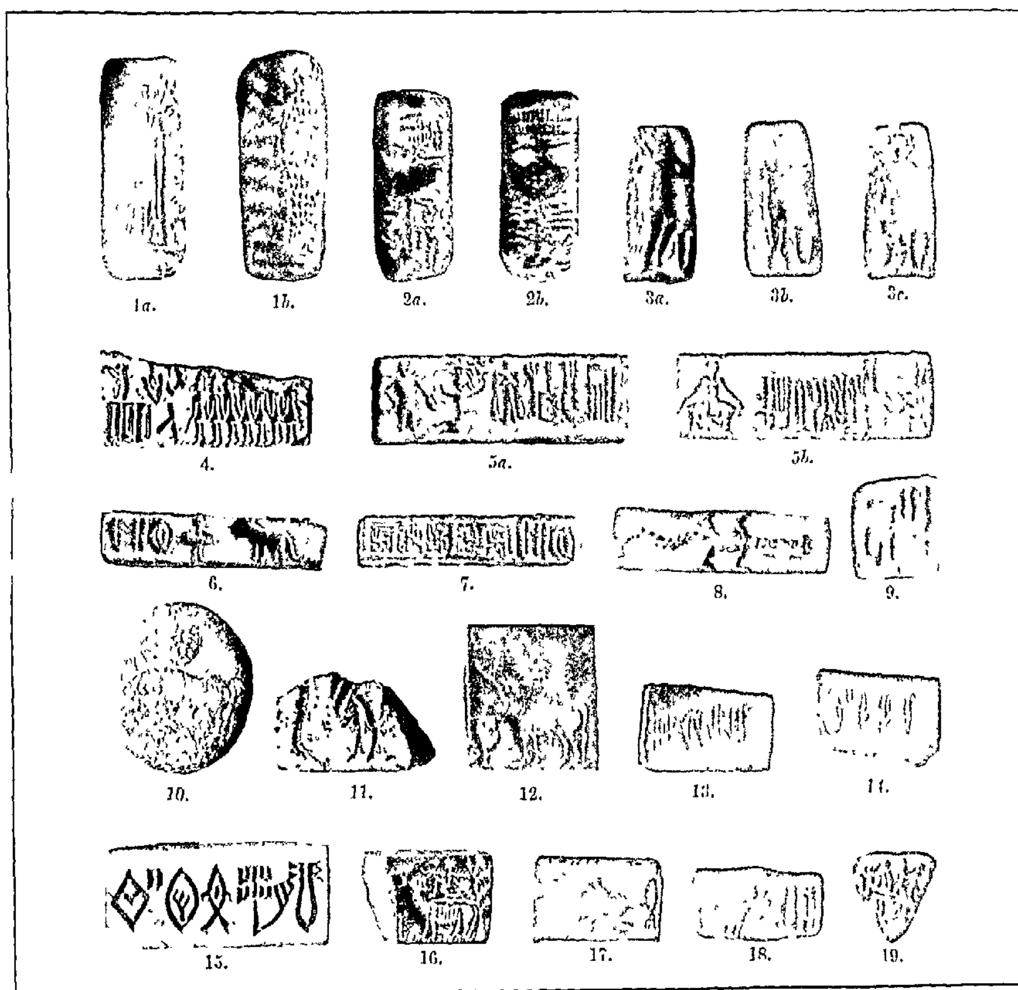
Mohenjo-daro: Statuary from L Area.



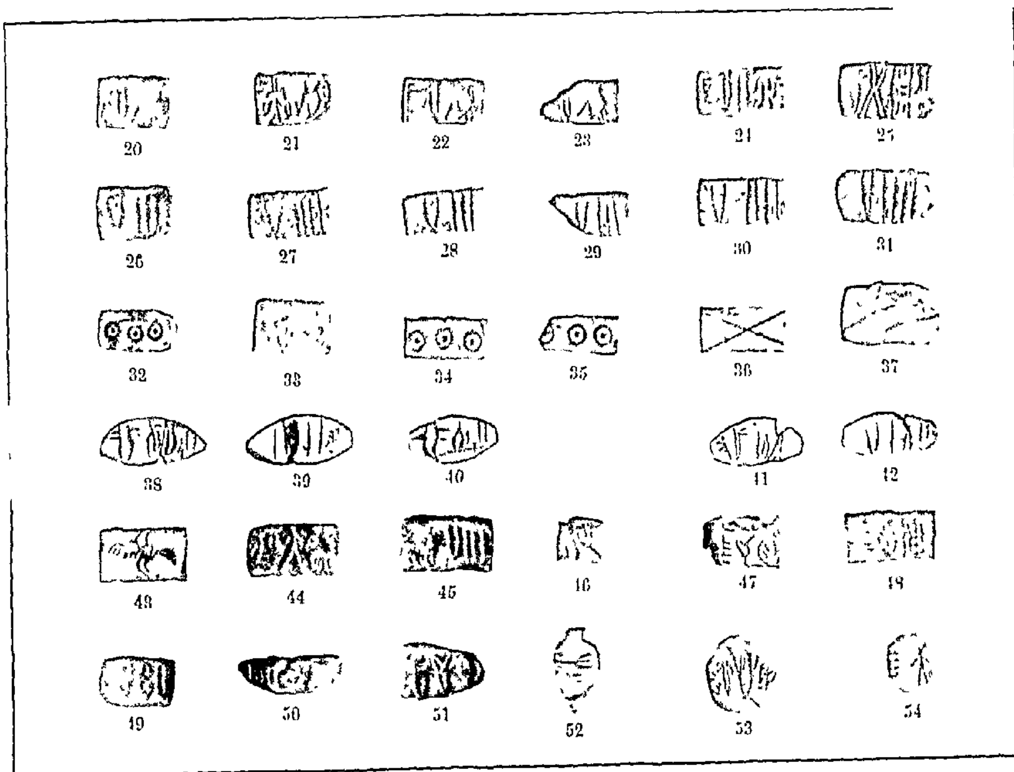
(*a*). HARAPPA: MOUND F. PANORAMIC VIEW OF THE EASTERN AND WESTERN SERIES OF PARALLEL WALLS FROM WEST.



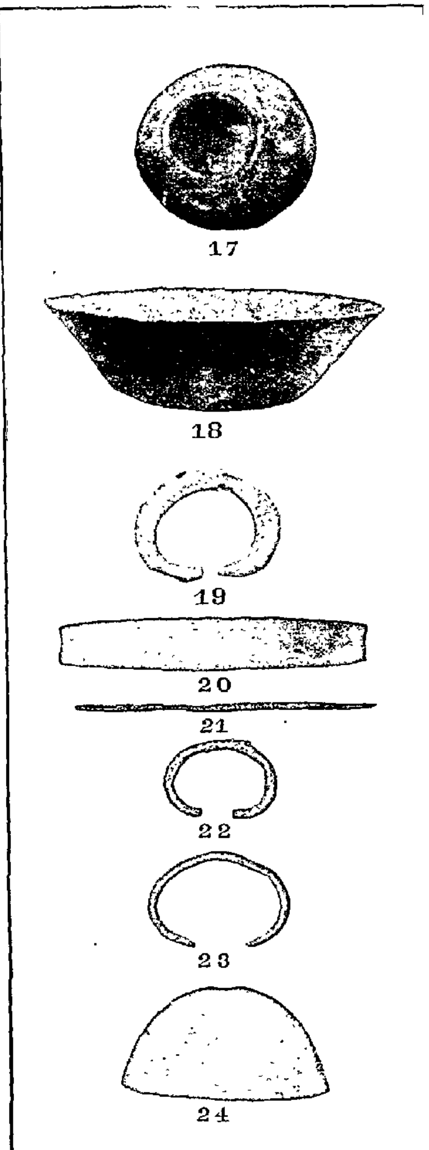
(*b*). HARAPPA: MOUND F. PANORAMIC VIEW OF THE EASTERN AND WESTERN SERIES OF PARALLEL WALLS FROM NORTH.

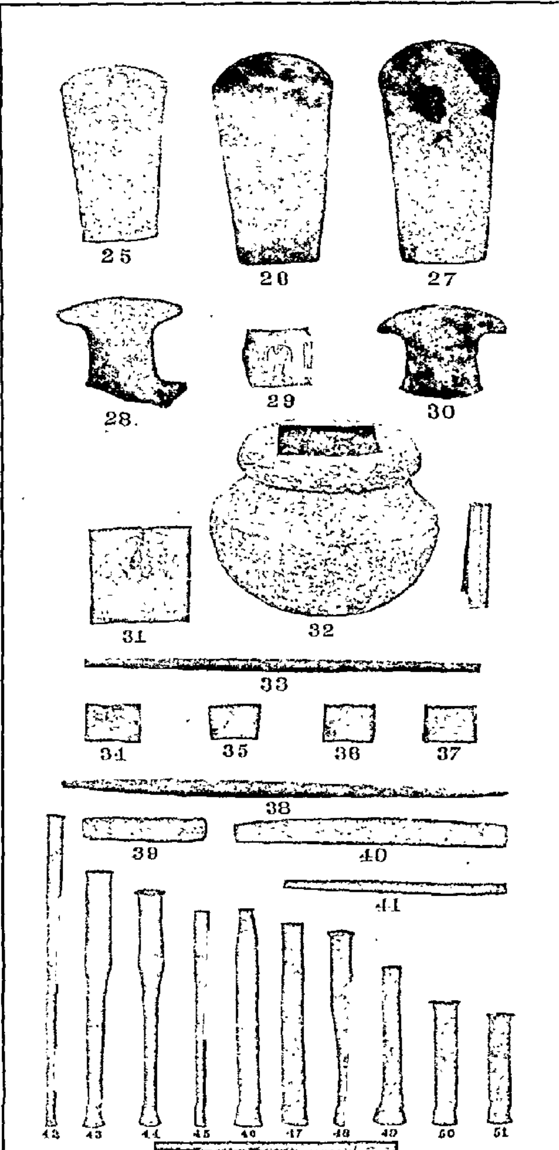


a. HARAPPA: SEALS AND SEALINGS OF STEATITE, FAIENCE, AND TERRACOTTA.

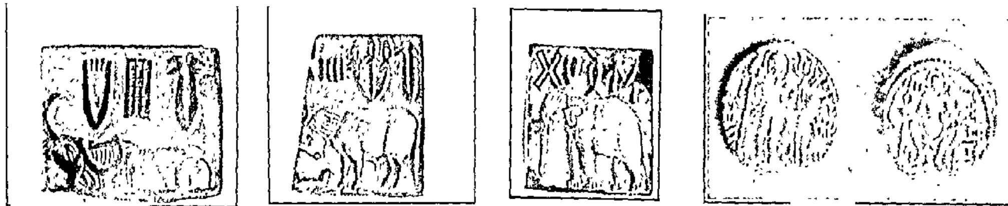


b. HARAPPA: TINY SEALS AND SEALINGS OF STEATITE AND FAIENCE, FROM EARLIER STRATA.





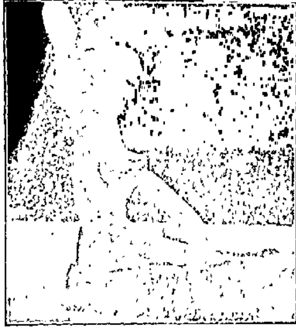
HARAPPA. CLOSED COPPER JAR No. 277 AND ITS CONTENTS.



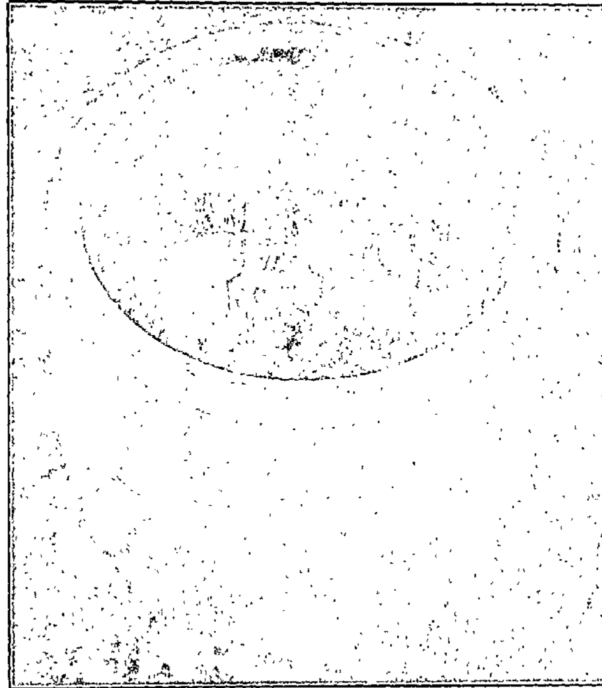
1 2 3

a. Seals from Harappa.

b. Coin of Samudra Gupta in the Lahore Museum.



c. Harappa: A woman kneading bread.



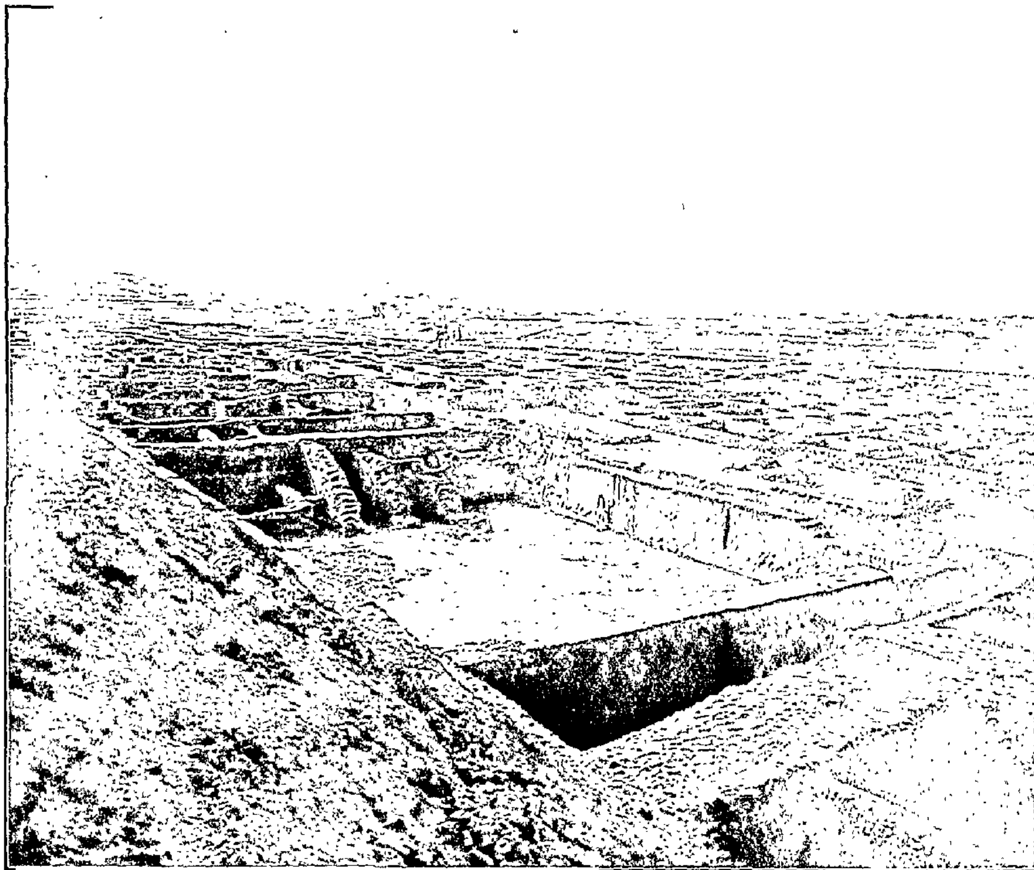
e. Harappa: Painted trough containing tortoise shell and small vessels.



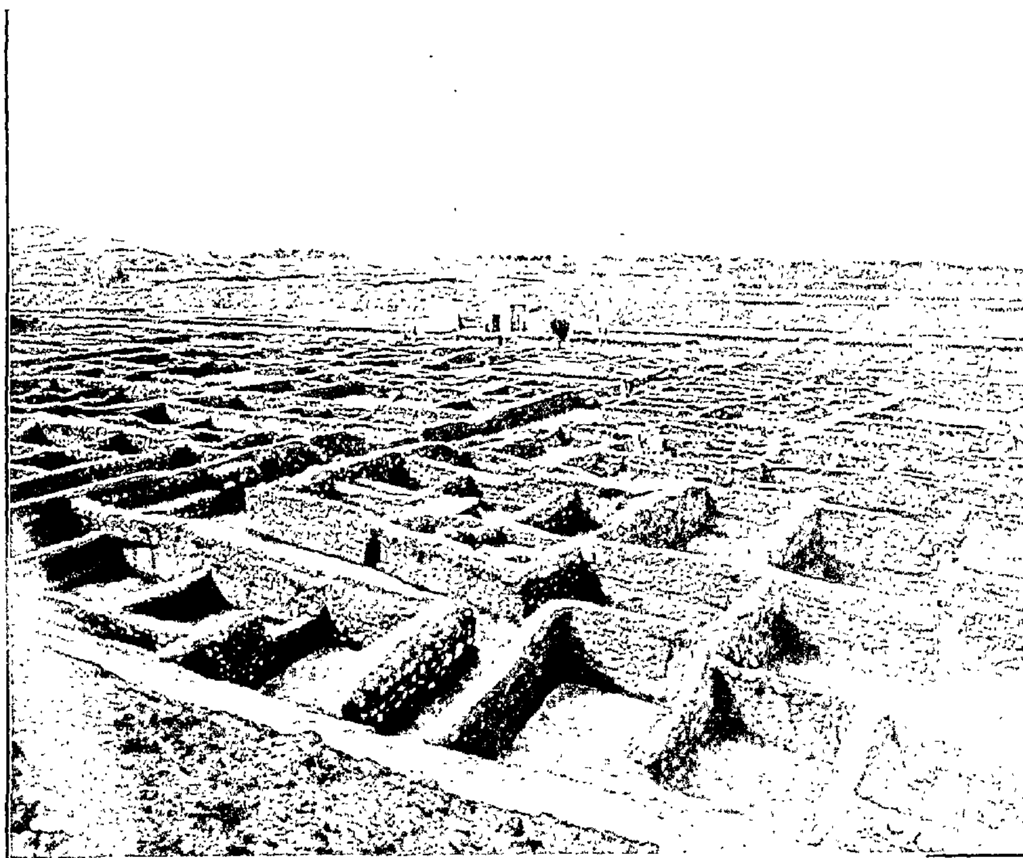
d. Copper cart from Harappa.



f. Vessels with flat bottoms, *in situ*. 2nd stratum at Harappa.

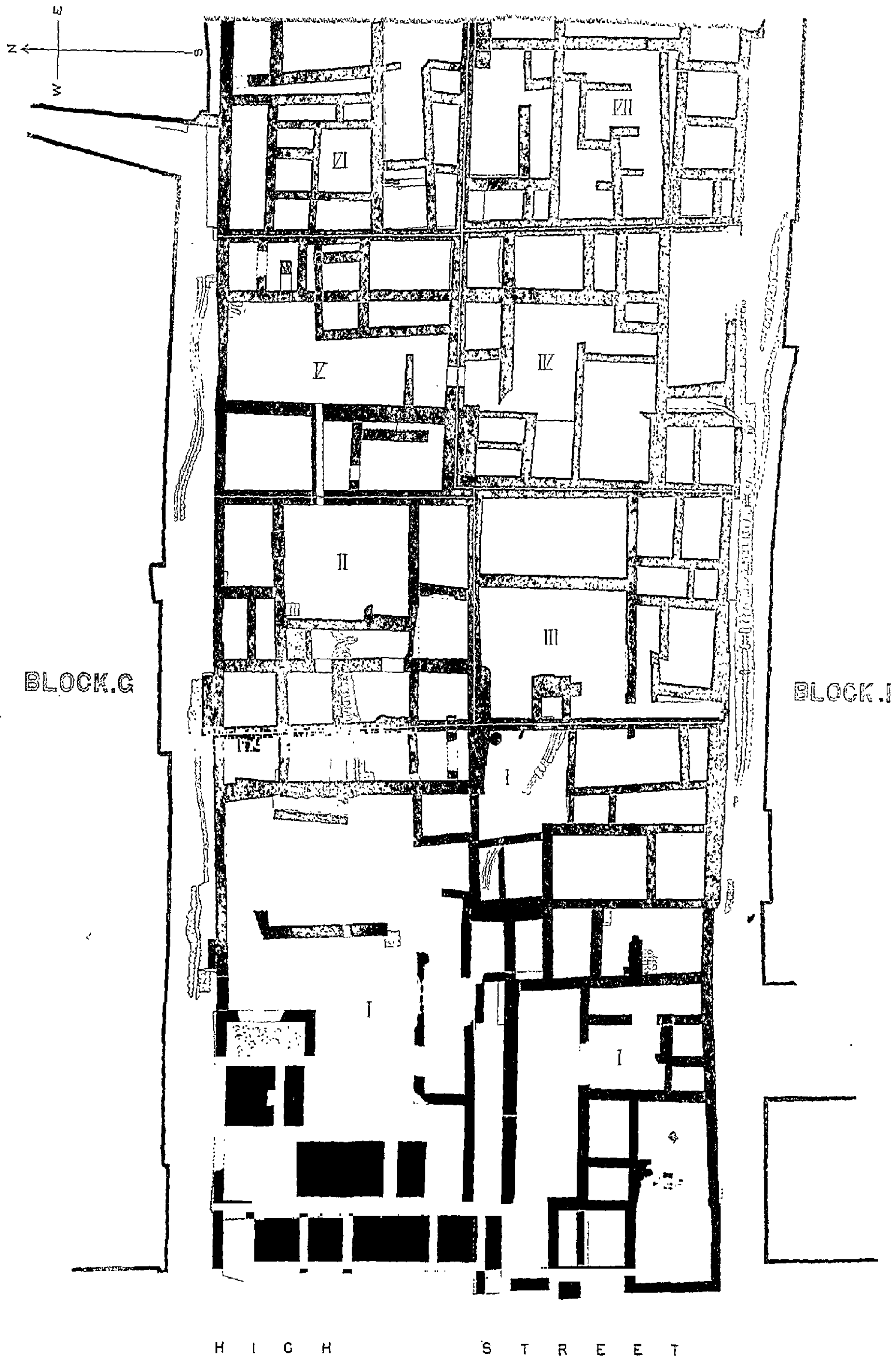


a. Sirkap. View of block F B from N.E.

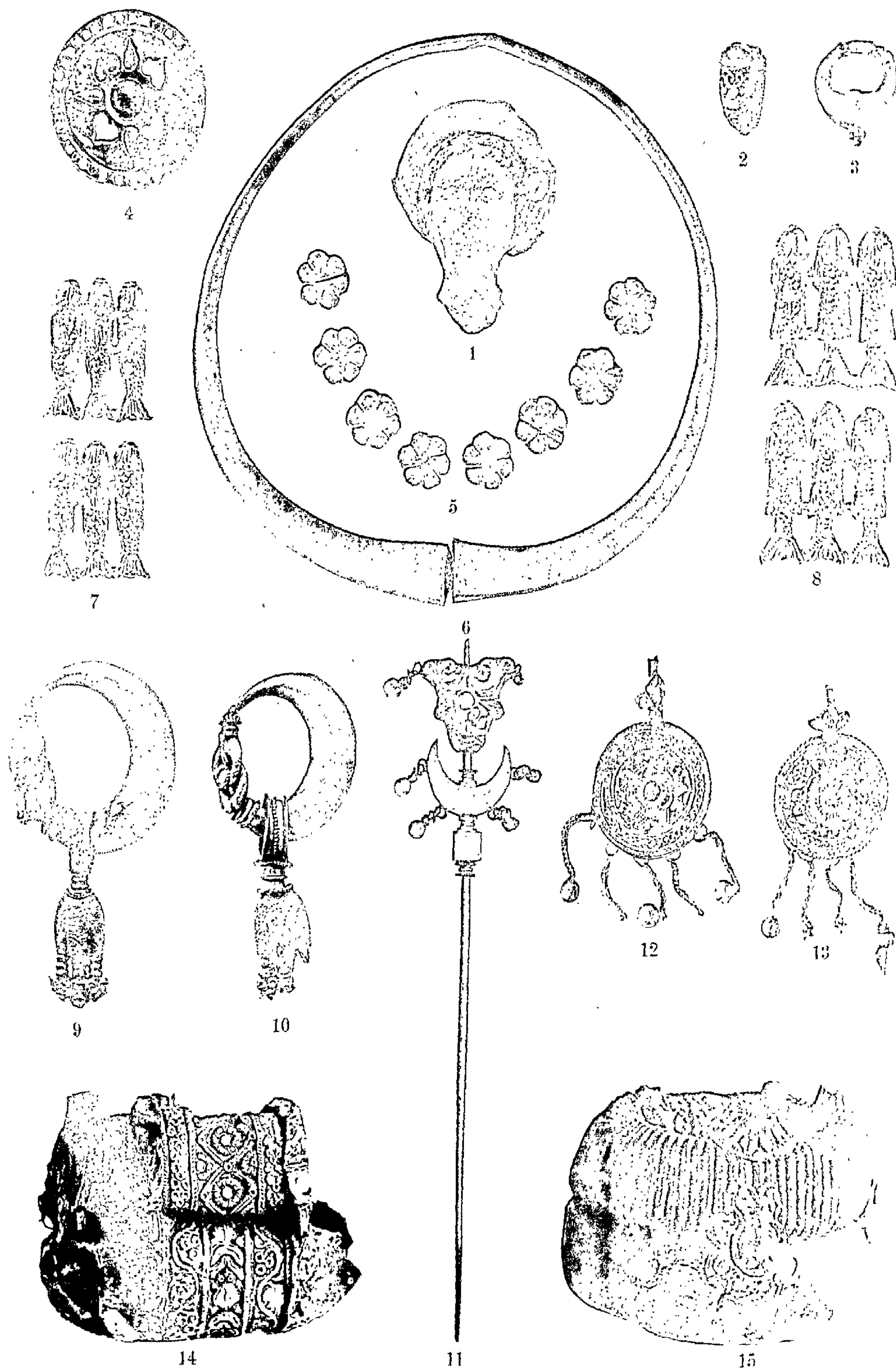


b. Sirkap. View of blocks G. & H. from N.E.

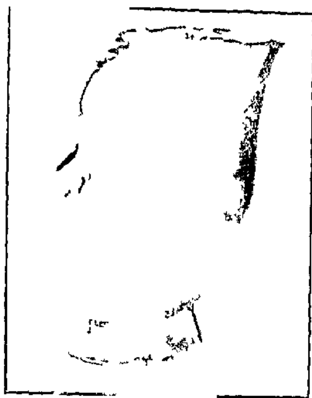
TAXILA



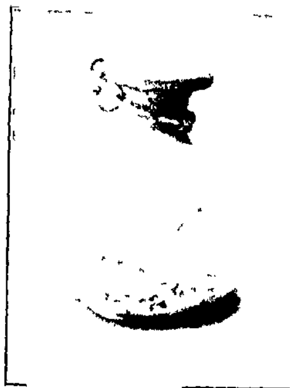
PLAN OF SIRKAP: BLOCK H.



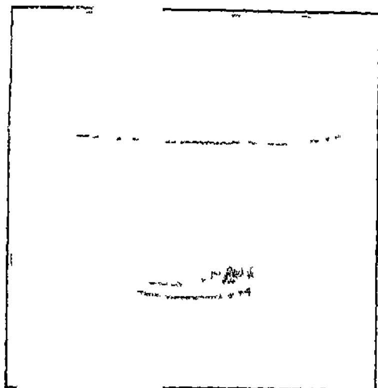
TERRACOTTA HEAD (NO. 1) AND GOLD AND SILVER ORNAMENTS FROM SIRKAP.



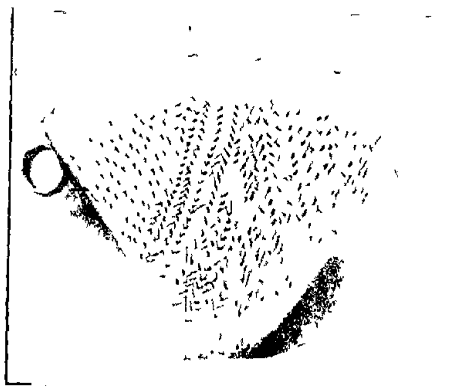
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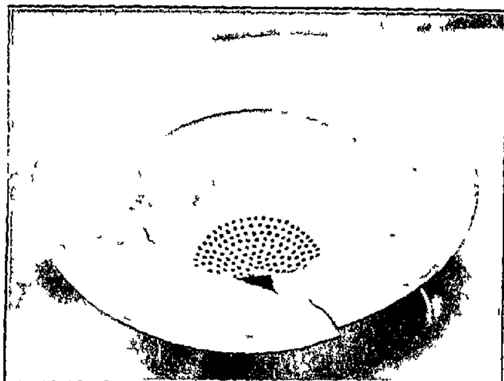
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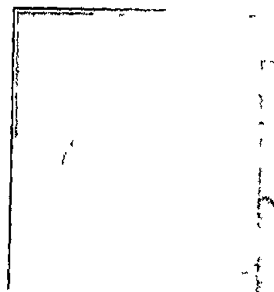
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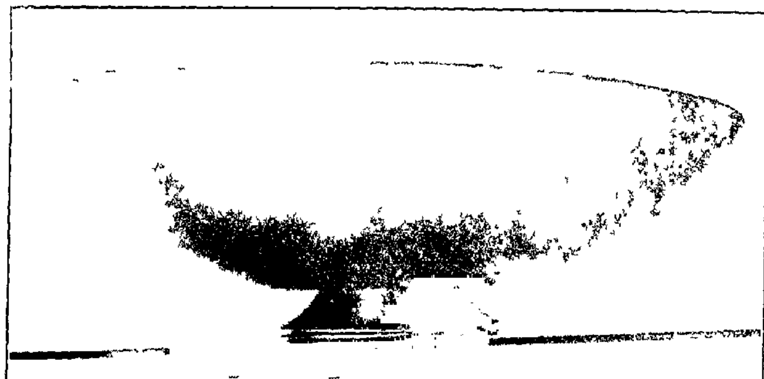
5



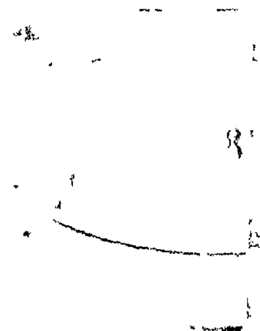
7



8

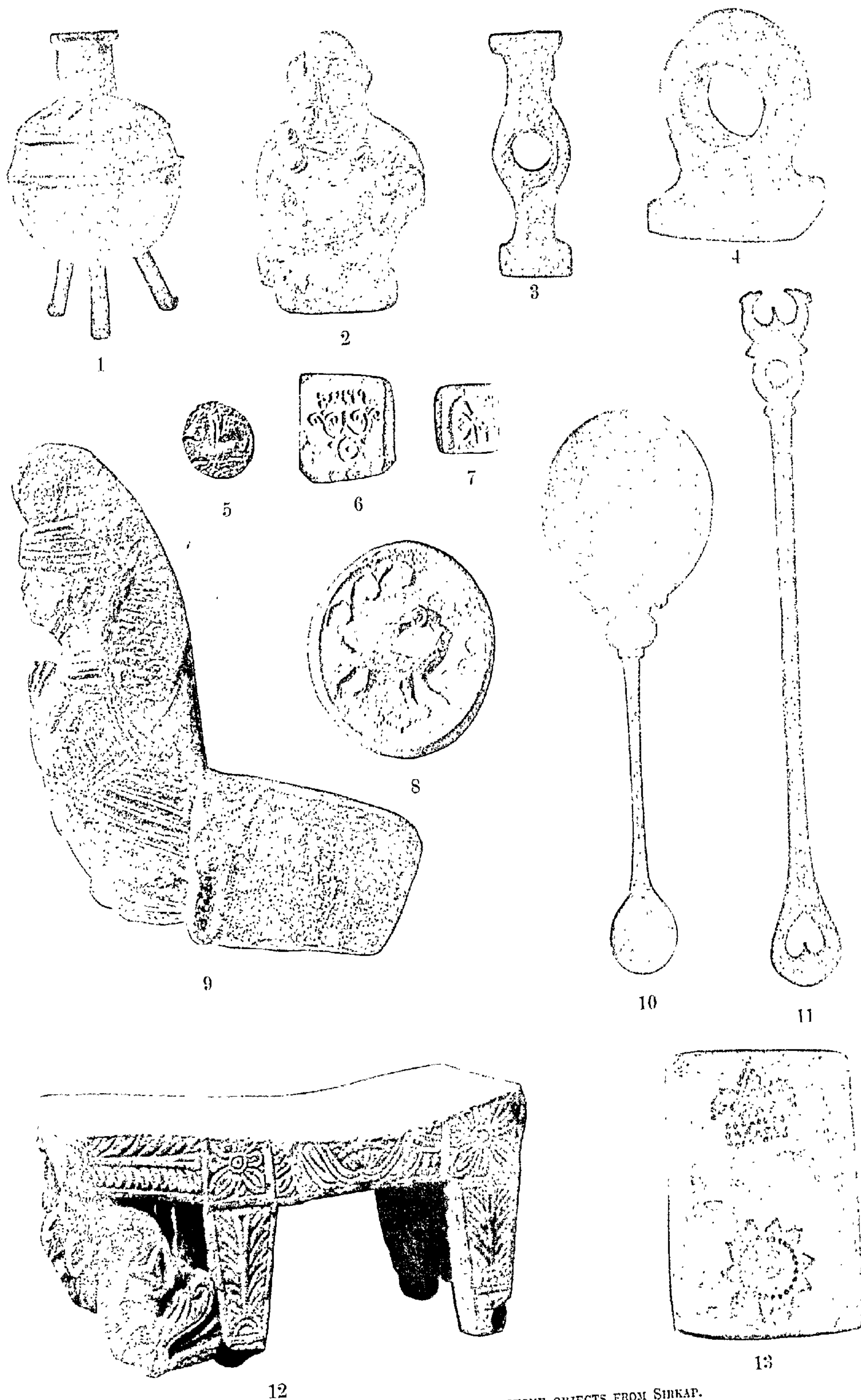


9



10

SILVER UTENSILS FROM SIRKAP

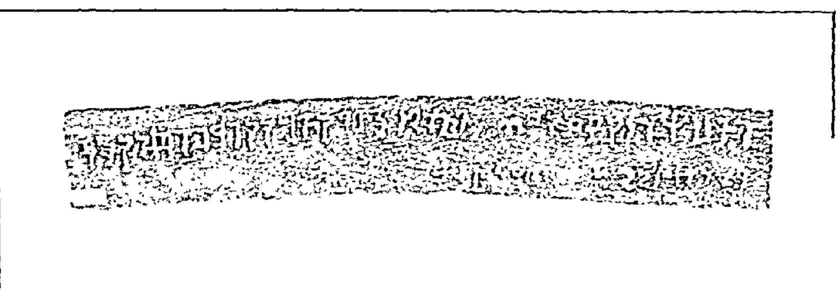


MISCELLANEOUS TERRACOTTA, COPPER AND STONE OBJECTS FROM SIRKAP.

Photo-engraved & printed at the Offices of the Survey of India, Calcutta, 192



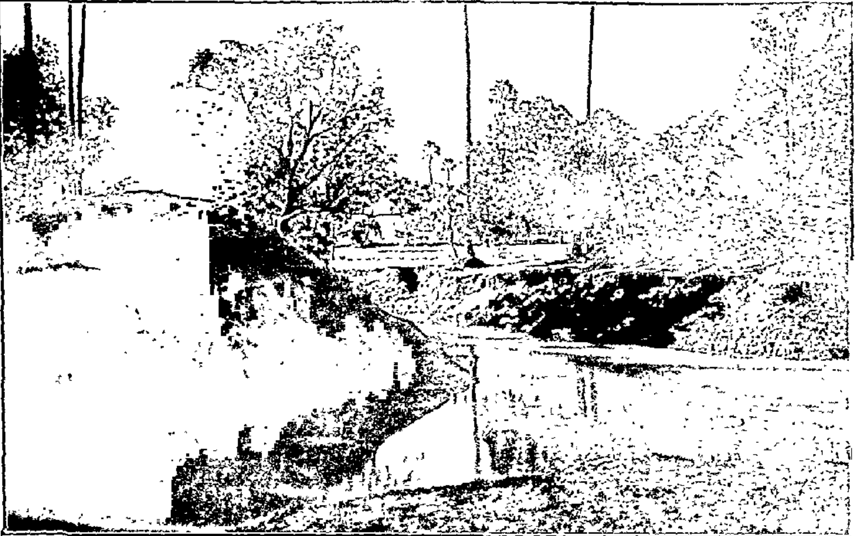
(a) INSCRIBED ROCK: SHAHDAUR, AGROR VALLEY.



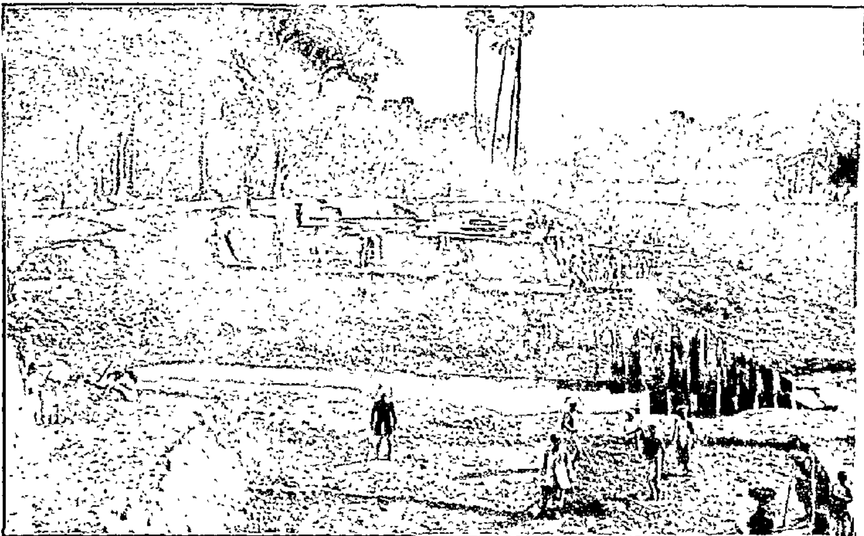
(b) INSCRIPTION B. SHAHDAUR.



(c) SHAHJAHAN BOALI: MEHM, ROHTAK DISTRICT.



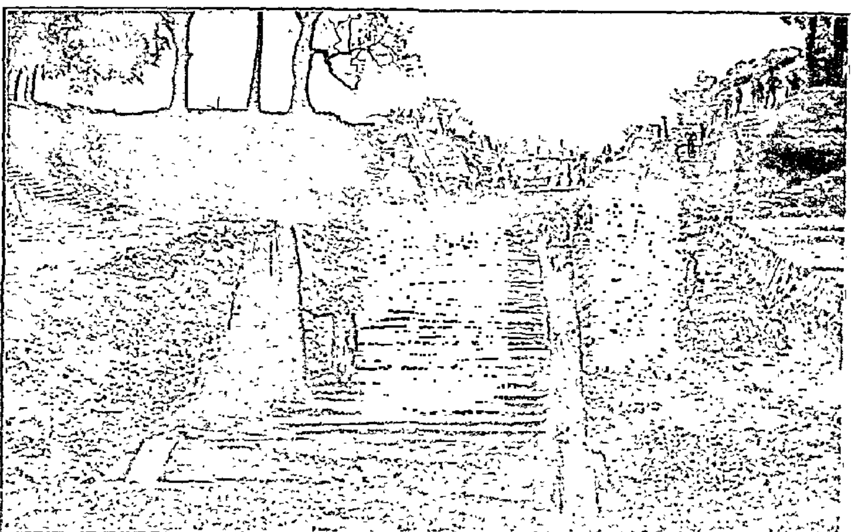
a. PATALIPUTRA, BEFORE THE EXCAVATION OF 1926-27, FROM NORTH.



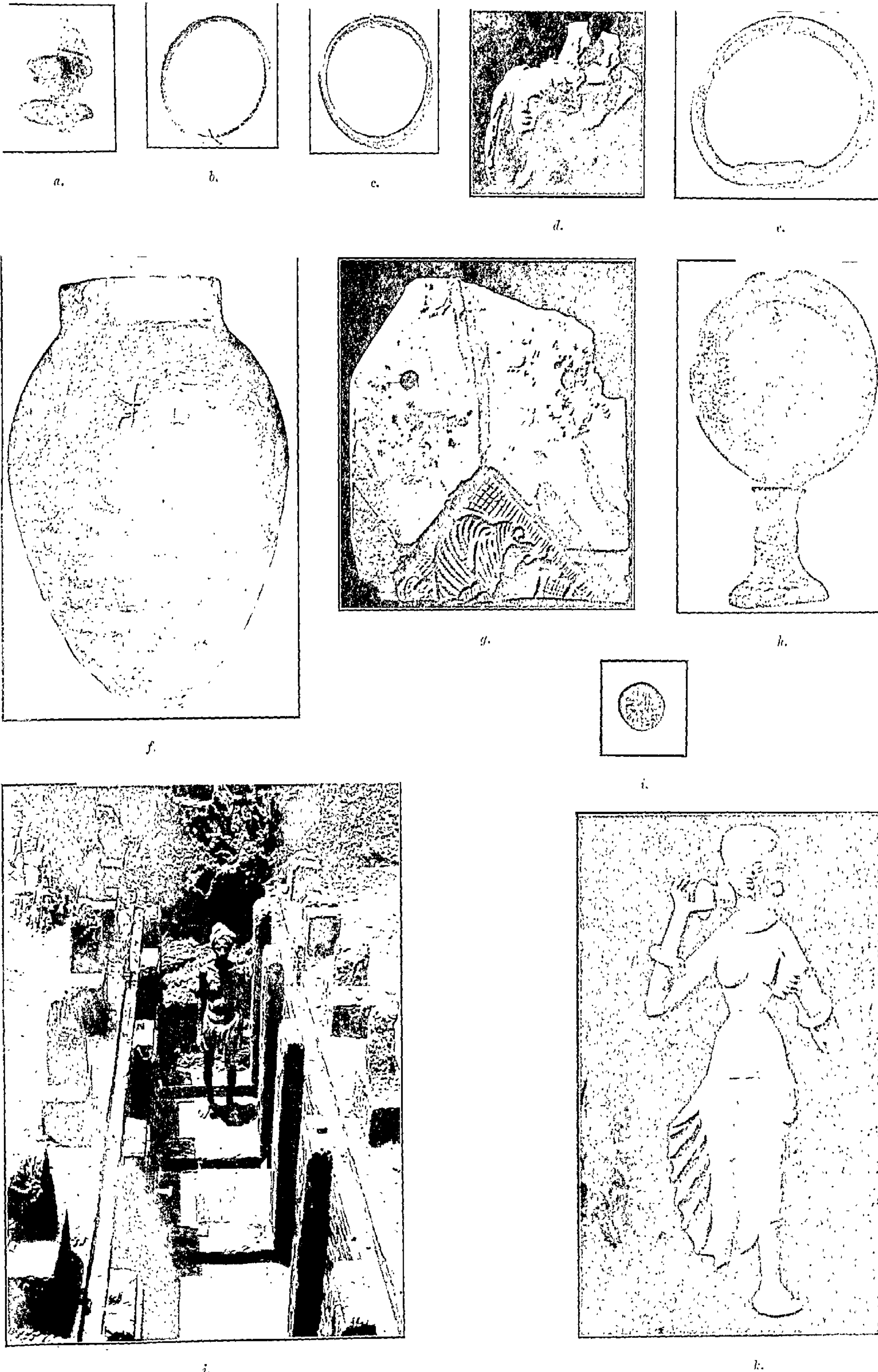
b. PATALIPUTRA, AFTER EXCAVATION; SHOWING MAURYAN PALISADE BELOW AND LATER GUPTA WALLS ABOVE; FROM NORTH.



c. PATALIPUTRA: NEAR VIEW OF MAURYAN PALISADE FR[illegible] W.



d. PATALIPUTRA: MAURYAN PALISADE, WEST TO EAST, AS FURTHER EXCAVATED.



PATALIPUTRA: *a.* LEAD EAR ORNAMENT; *b* & *c.* PAIR OF BONE BANGLES; *d.* HEAD OF TERRACOTTA SERPENT-GODDESS: *e.* LEAD ANKLET: *f.* INSCRIBED POT; *g.* PORTION OF SOAP-STONE MATRIX (GUPTA); *h.* METAL HAND-MIRROR; *i.* INSCRIBED GLASS SEAL; *j.* DRAIN SHOWING WOODEN FLOOR JOINTED WITH IRON STRIPS; AND *k.* TERRACOTTA FIGURINE IN THE ROUND, WITH EARLOBE EXPANDER IN RIGHT EAR.



a. PAHARPUR: STONE SCULPTURE REPRESENTING BALARAMA KILLING DHANUKASURA.



b. PAHARPUR: STONE SCULPTURE SHOWING KRISHNA UPROOTING THE TWO ARJUNA TREES.



c. PAHARPUR: STONE SCULPTURE REPRESENTING KRISHNA AND RADHA.

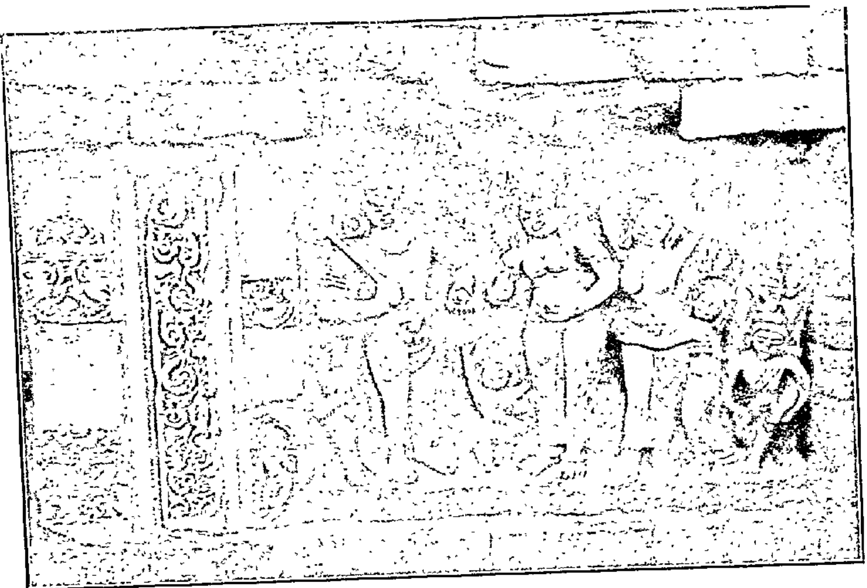


d. PAHARPUR: STONE IMAGE OF AGNI.

Photo-engraved & printed at the Offices of the Survey of India, Calcutta, 1933.



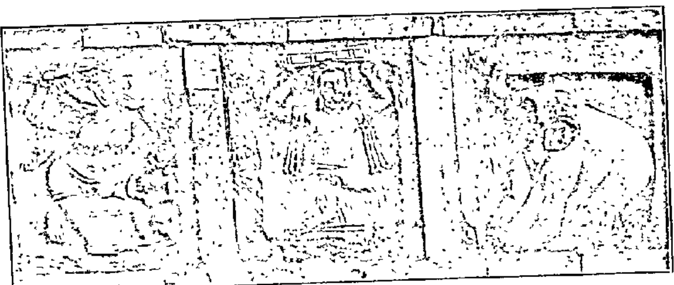
a. PAHARPUR: STONE SCULPTURE SHOWING KRISHNA AND BALARAMA KILLING CHANURA AND MUSHTIKA.

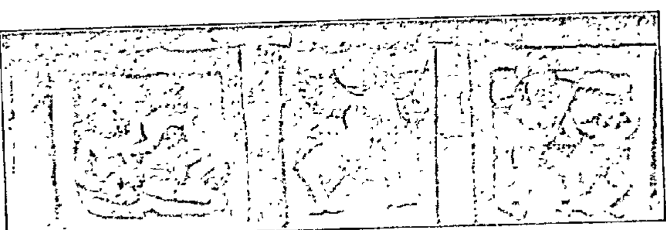


b. PAHARPUR: STONE SCULPTURE REPRESENTING THE OFFERING OF POISON TO SIVA.



c. PAHARPUR: STONE IMAGE OF GANESA.





d & *e.* PAHARPUR: SELECTED TERRACOTTA PLAQUES.



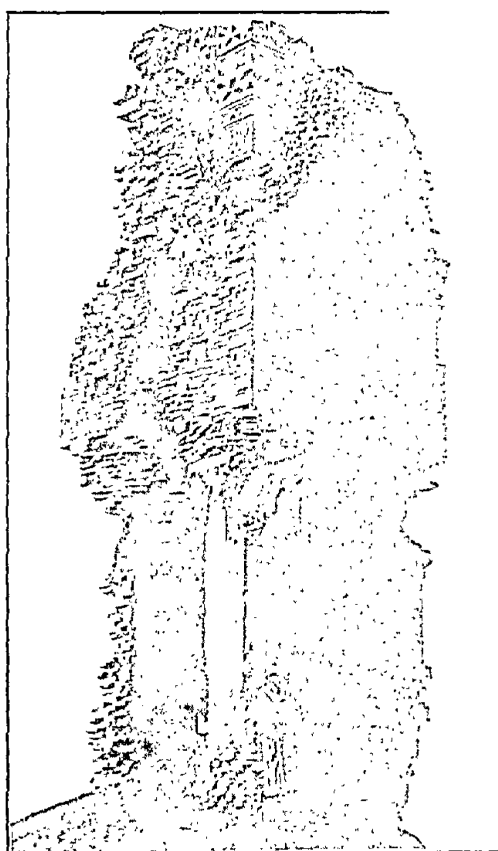
a. PAHARPUR: STONE SCULPTURE REPRESENTING MONKEY CARRYING LOADS OF STONE.



b. PAHARPUR: TERRACOTTA PLAQUE REPRESENTING FLUTE-PLAYER.

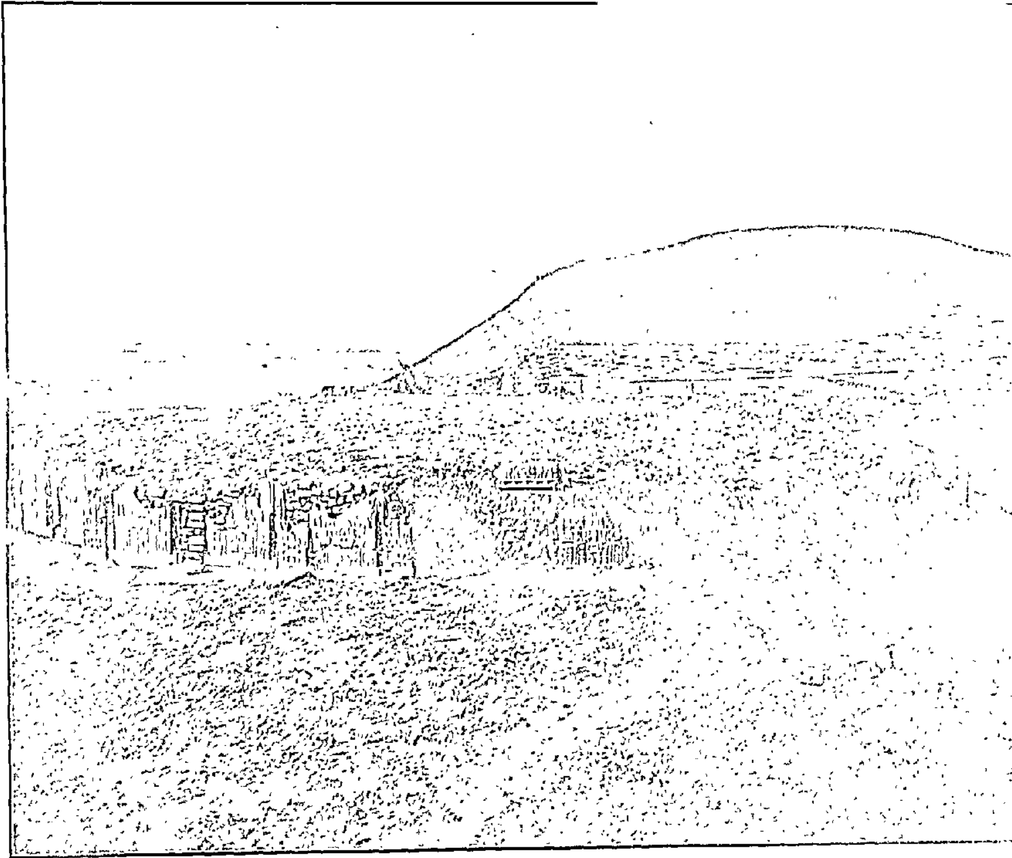


c. PAHARPUR: TERRACOTTA PLAQUE REPRESENTING BODHISATTVA.

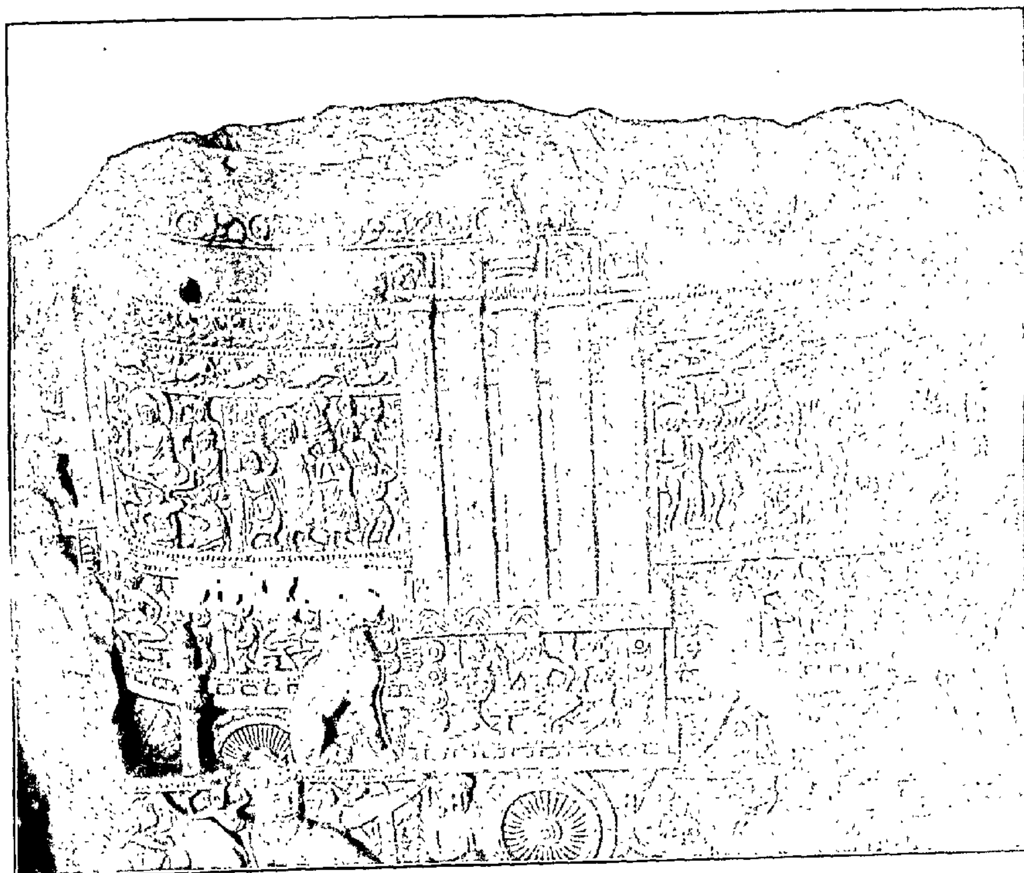


d. BAHAWALPUR STATE: PATTAN MUNARA. VIEW FROM S.-W.

Photo-engraved & printed at the Offices of the Survey of India, Calcutta, 19[illegible]

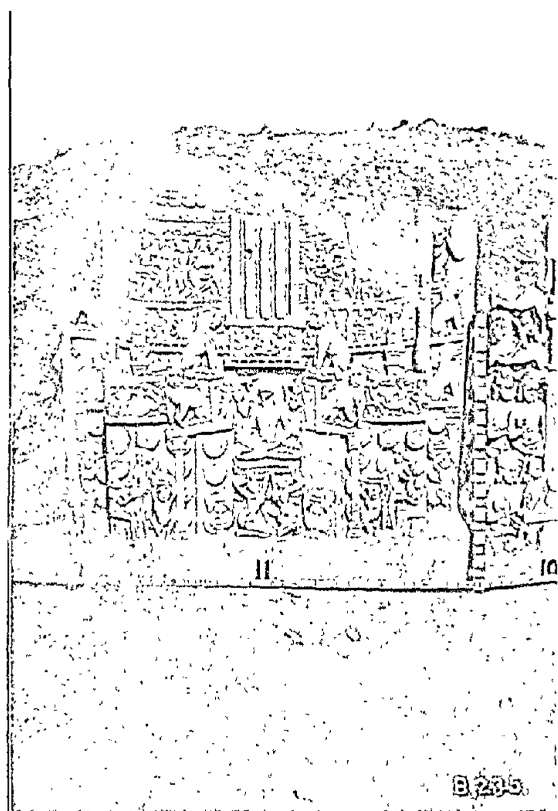


a. GUMMUDIDURRU: GENERAL VIEW OF THE MAIN STUPA FROM N.-E.

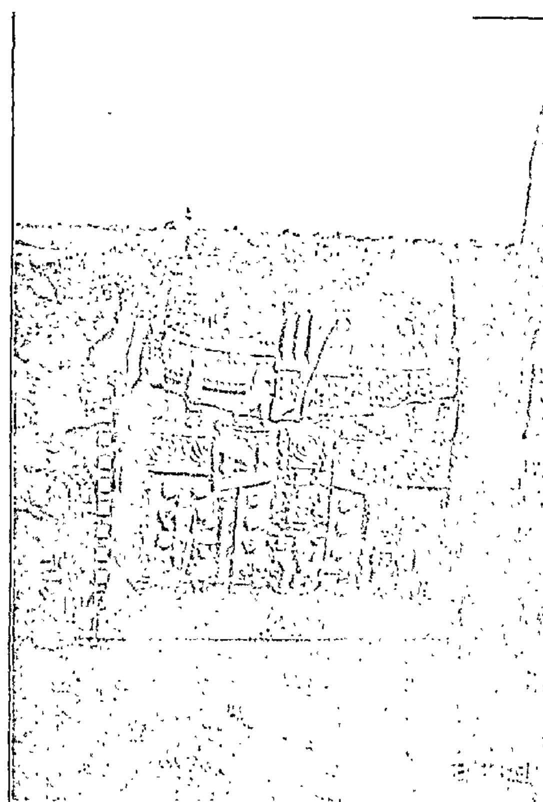


b. GUMMUDIDURRU: RELIEF NO. 1, MAIN STUPA.

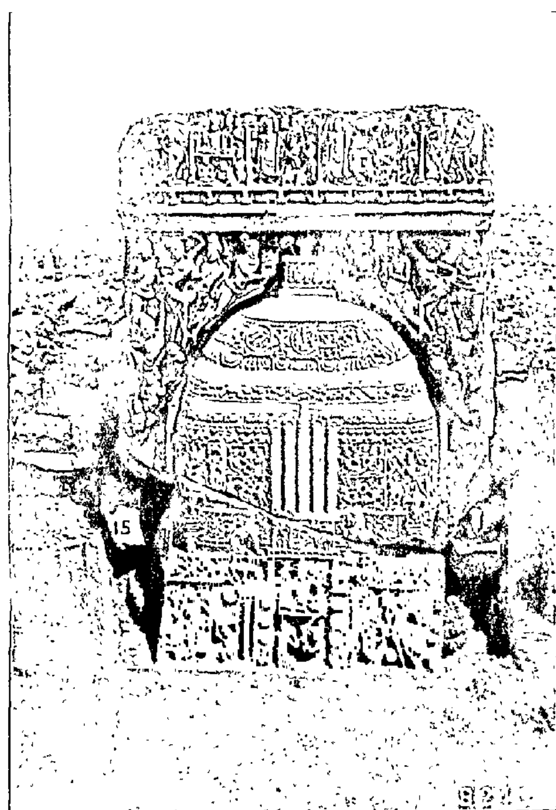
Photo-engraved & printed at the Offices of the Survey of India, Calcutta, 1926.



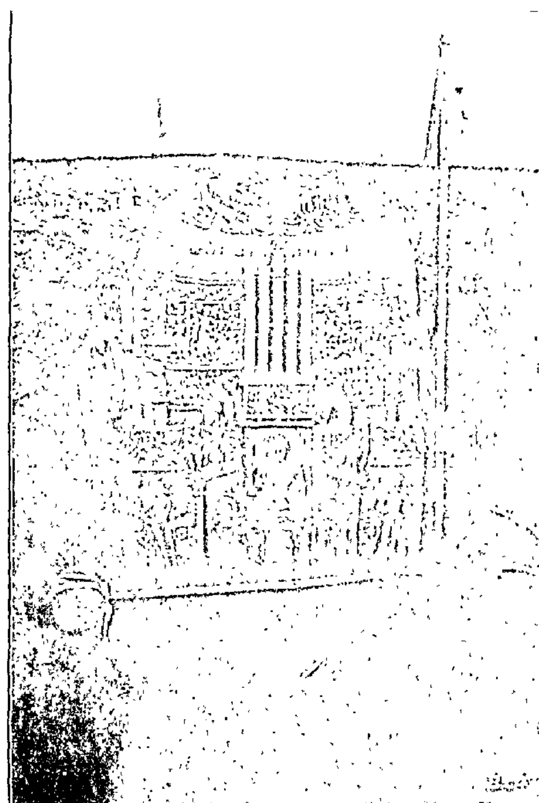
a. GUMMUDIDURRU: RELIEF NO. 11, MAIN STUPA.



b. GUMMUDIDURRU: RELIEF NO. 14, MAIN STUPA.

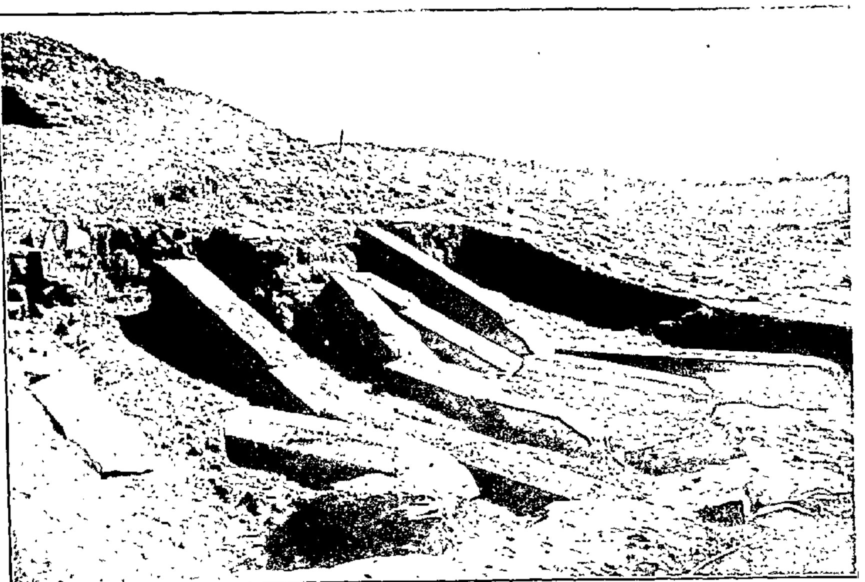


c. GUMMUDIDURRU: RELIEF NOS. 15 AND 16, MAIN STUPA.

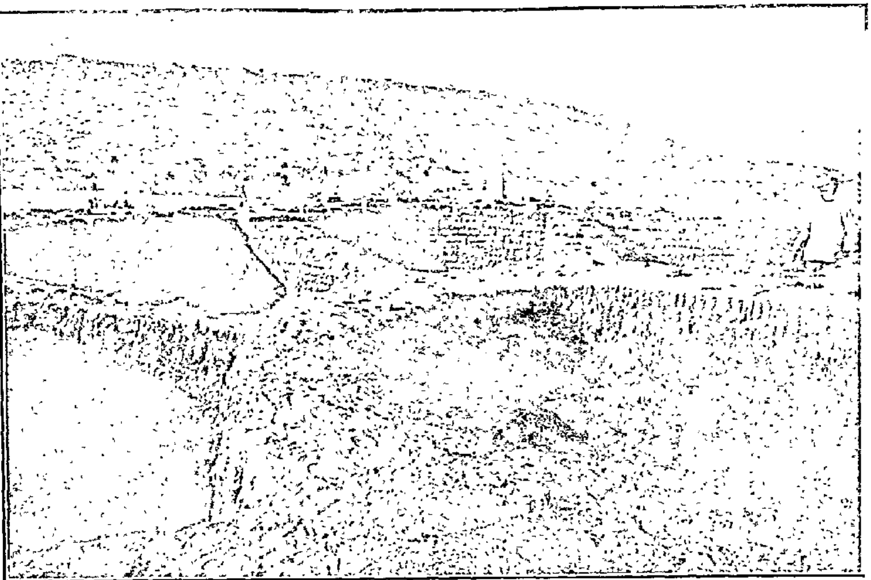


d. GUMMUDIDURRU: RELIEF NO. 22, MAIN STUPA.

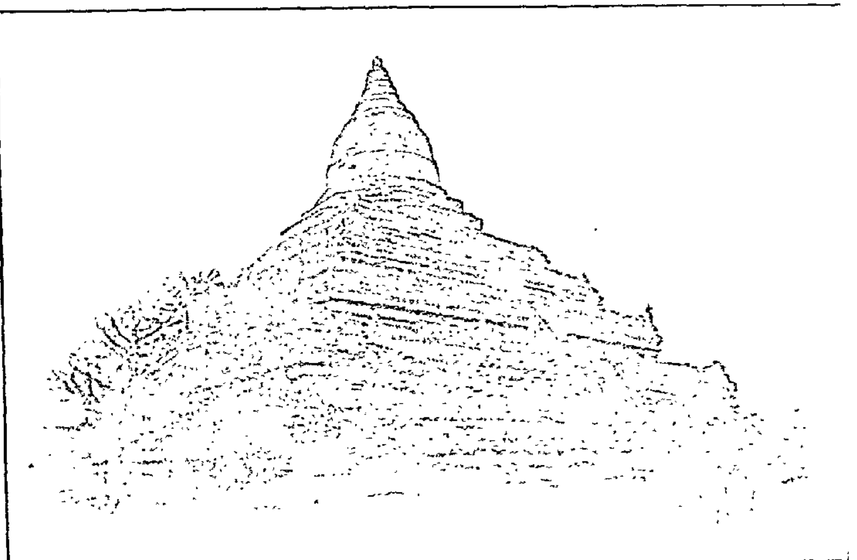
Photo-engraved & printed at the Offices of the Survey of India, Calcutta, 19



a. NAGARJUNIKONDA: SITE NO. 1, SHOWING BROKEN PILLARS ON WEST SIDE OF STUPA.



b. NAGARJUNIKONDA: SITE NO. 1, SHOWING WHEEL-SHAPED FOUNDATION OF STUPA.

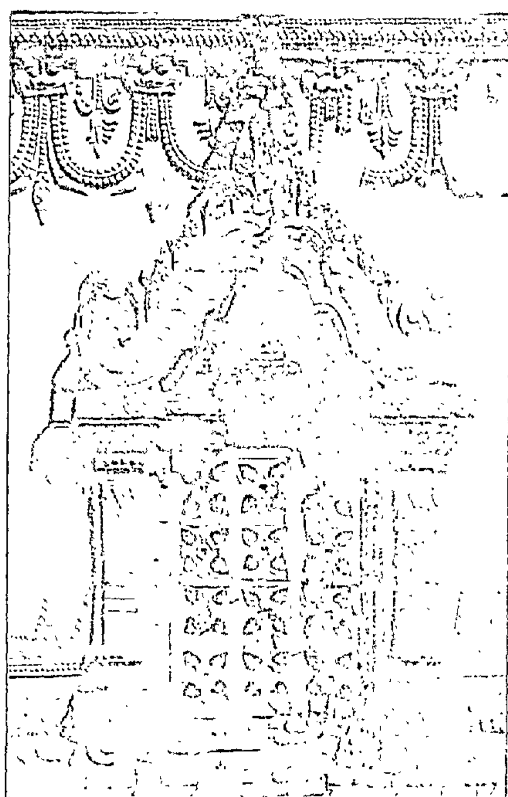




d. RELIC CHAMBER, KHIN BA'S MOUND, HMAWZA.



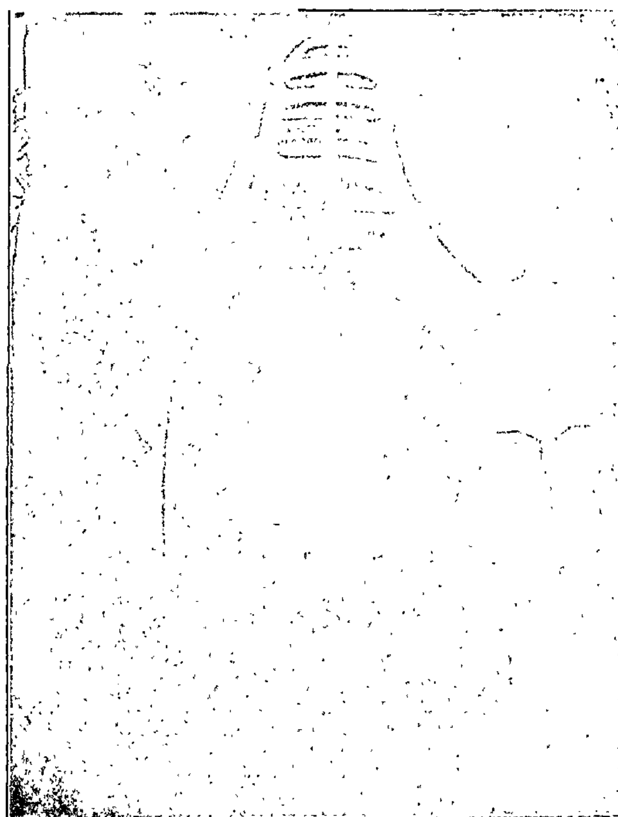
a. GUMMUDIDURRU: HOLLOW GOLD BEAD NECKLACE FOUND IN AN EARTHEN POT.



b. PAGAN: HLAINGSHE TEMPLE, SHOWING PART OF BASEMENT WALL ON WEST FACE.



c. HMAWZA: SILVER GILT STUPA FROM RELIC-CHAMBER IN KHIN-BA'S MOUND.



d. HMAWZA: STONE SLAB COVERING RELIC-CHAMBER, KHIN-BA'S MOUND.

Photo-engraved & printed at the Offices of the Survey of India, Calcutta, 19



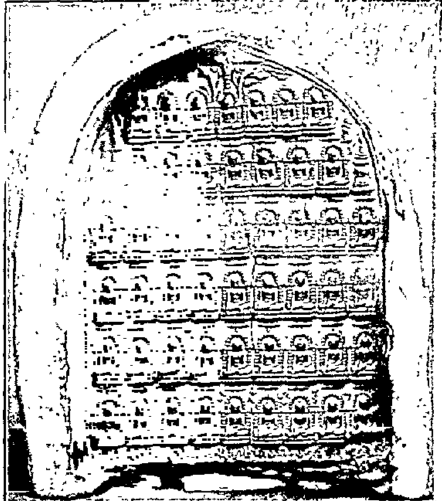
a. TERRACOTTA VOTIVE TABLET FROM RELIC CHAMBER OF THE SHWESANDAW PAGODA, PAGAN.



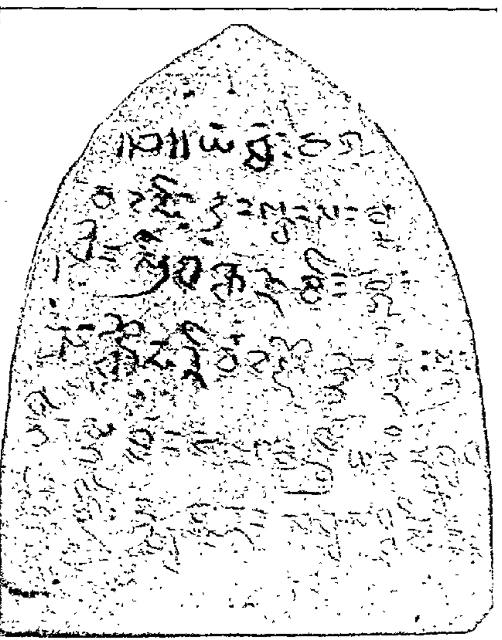
b. TERRACOTTA VOTIVE TABLET FROM RELIC CHAMBER OF THE SHWESANDAW PAGODA, PAGAN.



c. BRONZE IMAGE OF BUDDHA FROM PAGAN.



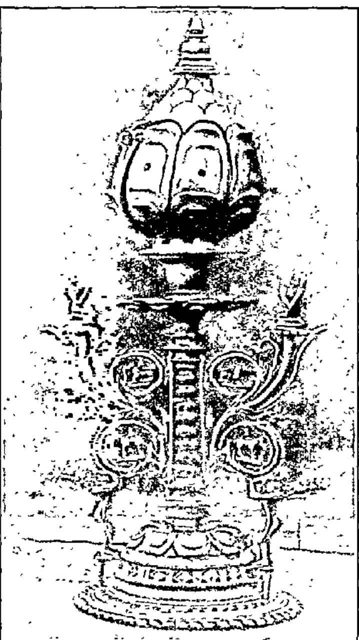
d. TERRACOTTA VOTIVE TABLET FROM PAGAN.

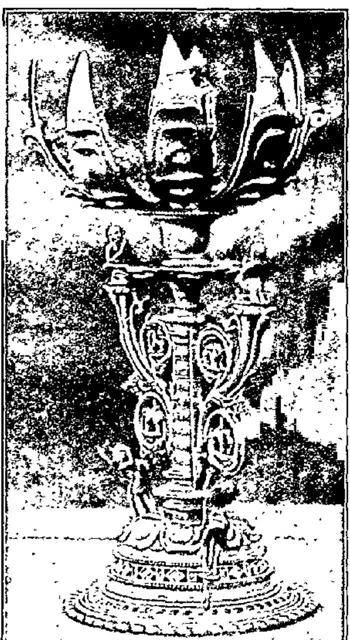


[illegible] OM RELIC



f. BRONZE IMAGE OF BODHISATTVA FROM RELIC





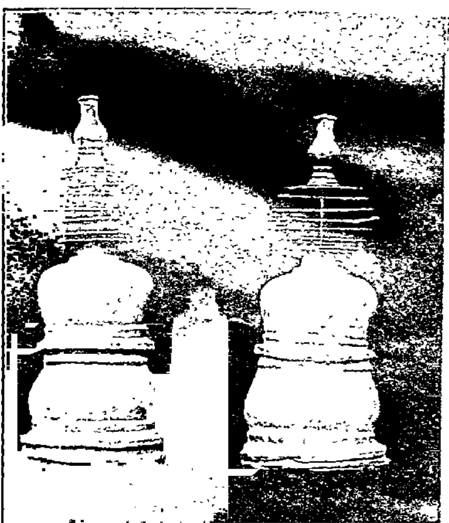
g. & *h.* PAGAN: A BRONZE LOTUS.



a. HMAWZA: KHIN-BA'S MOUND. A TERRACOTTA PLAQUE.



b. HMAWZA: KHIN-BA'S MOUND. A TERRACOTTA PLAQUE WITH A LOTUS PLANT.



c. HMAWZA: KHIN-BA'S MOUND. SILVER STUPAS FOUND IN THE RELIC CHAMBER.



d. HMAWZA: KHIN-BA'S MOUND. A TERRACOTTA PLAQUE SHOWING A



e. HMAWZA: KHIN-BA'S MOUND. A SILVER LOTUS FOUND IN THE RELIC CHAMBER.



f. HMAWZA: KHIN-BA'S MOUND. A SQUARE SILVER STUPA WITH BUDDHA FIGURES IN REPOUSSÉ, FOUND IN THE RELIC CHAMBER.

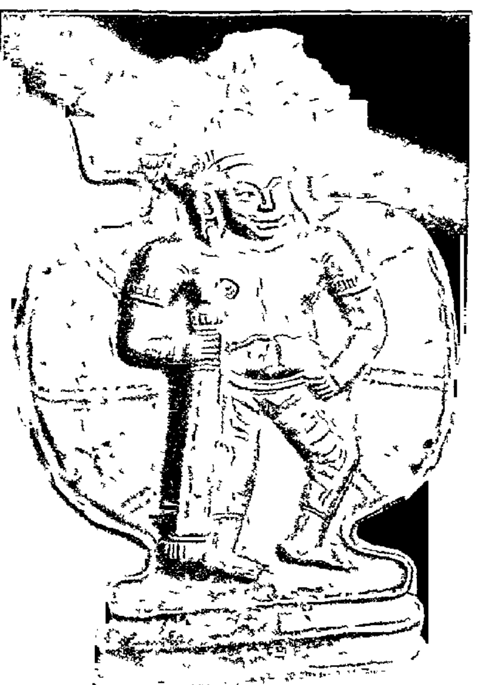
the Survey of India Calcutta, 1929.



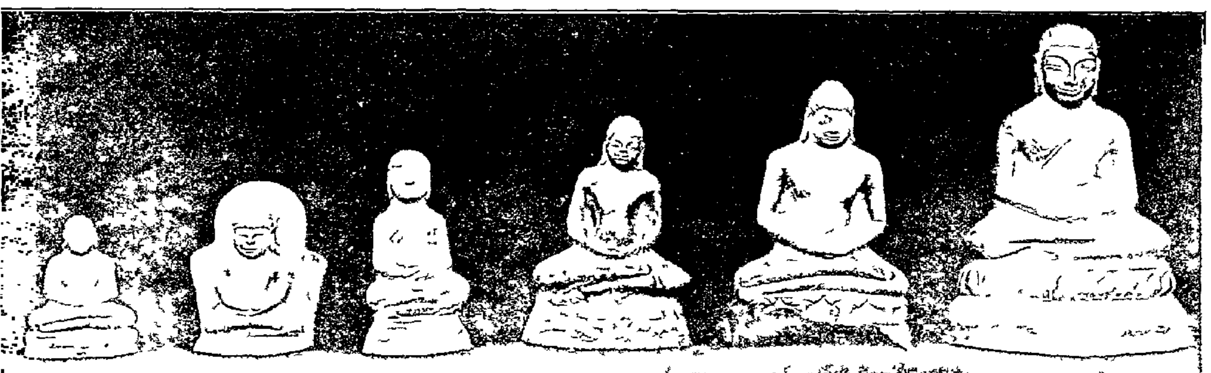
a HMAWZA KHIN BA'S MOUND A GOLD IMAGE OF BUDDHA FOUND IN THE RELIC CHAMBER



b HMAWZA KHIN BA'S MOUND A SILVER DVARAPALA FOUND IN THE RELIC CHAMBER



c HMAWZA KHIN BA'S MOUND A SILVER DVARAPALA FOUND IN THE RELIC CHAMBER



d HMAWZA KHIN BA'S MOUND IMAGES OF BUDDHA OF GOLD, SILVER AND LEAD FOUND IN THE RELIC CHAMBER



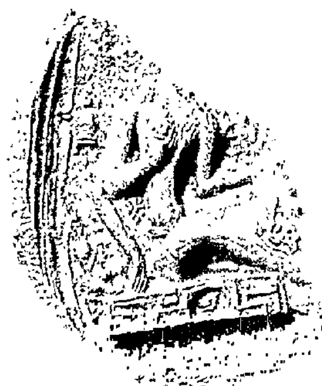
e HMAWZA. KHIN-BA'S MOUND A SILVER IMAGE OF



a.



b.



c.



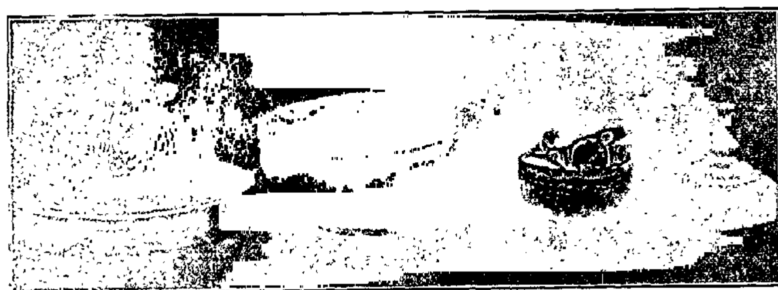


e.





f.



d.





f.



g.



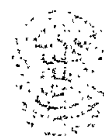


f.





f.



f.



h.



i.

HMAWZA: KHIN-BA'S MOUND: *a*, *b* & *c*, TERRACOTTA VOTIVE TABLETS; *d*, CASKET WITH SMALLER SILVER CASKET INSIDE, CONTAINING GOLD FI. RINGS, SOME SET WITH PRECIOUS STONES; *e-f* SYMBOLICAL COINS; *g* & *h*, GOLD MANUSCRIPT; *i*, SILVER CASKET.



a. TARA FROM GUNERI, BIHAR.



b. UMA-MAHESVARA, FROM BIHAR.



c. CROWNED BUDDHA IN EARTH-TOUCHING ATTITUDE, FROM BIHAR.



d. MAN-LION INCARNATION OF VISHNU, FROM BENGAL.



e. GARUDA CAPITAL FROM BENGAL.



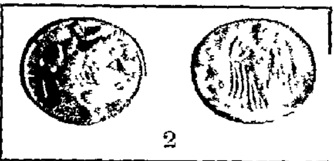
f. WOMAN AT TOILET; PURI, ORISSA.



g. SEATED VISHNU WITH TWO ARMS; PROBABLY FROM KONARAK, ORISSA.

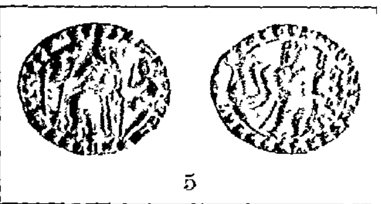
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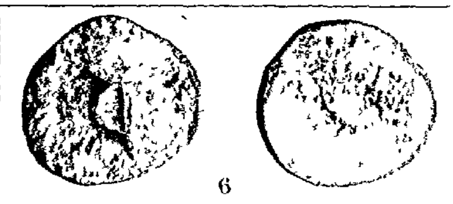

1

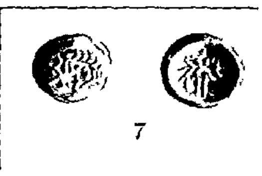

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3

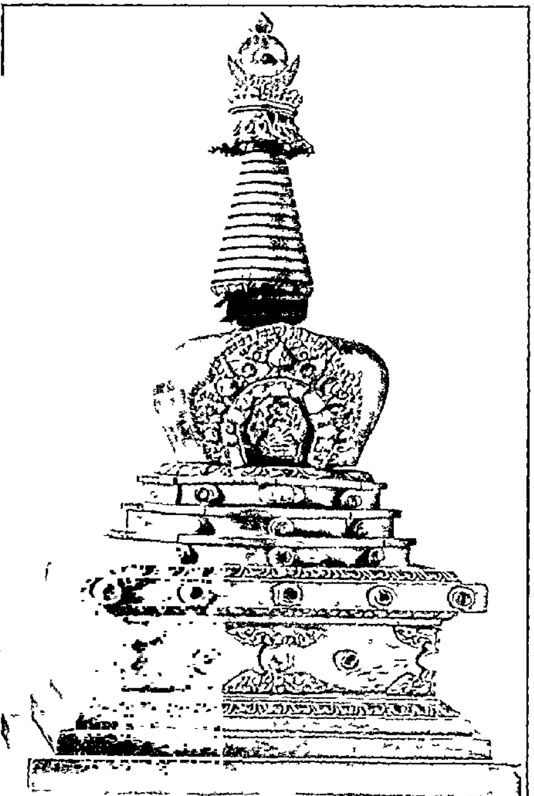

4


5


6


7

1—7. COINS

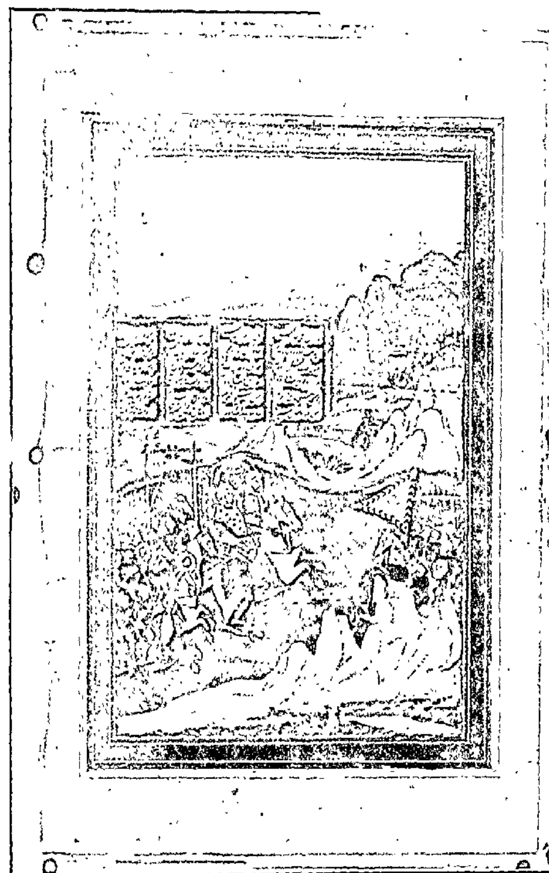


8 A VOTIVE STUPA FROM TIBET



9 BRASS UTENSILS FROM FARIDPUR, BENGAL.

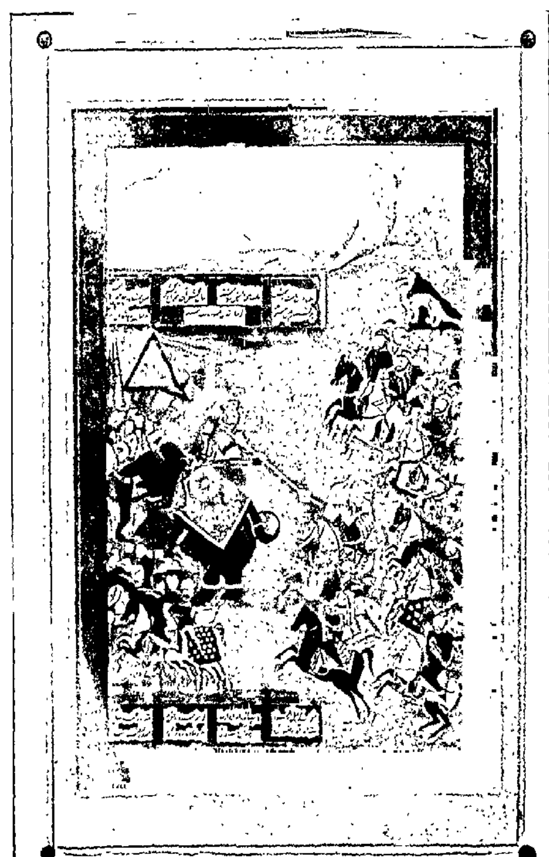
Photo-engraved & printed at the Offices of the Survey of India, Calcutta, 192



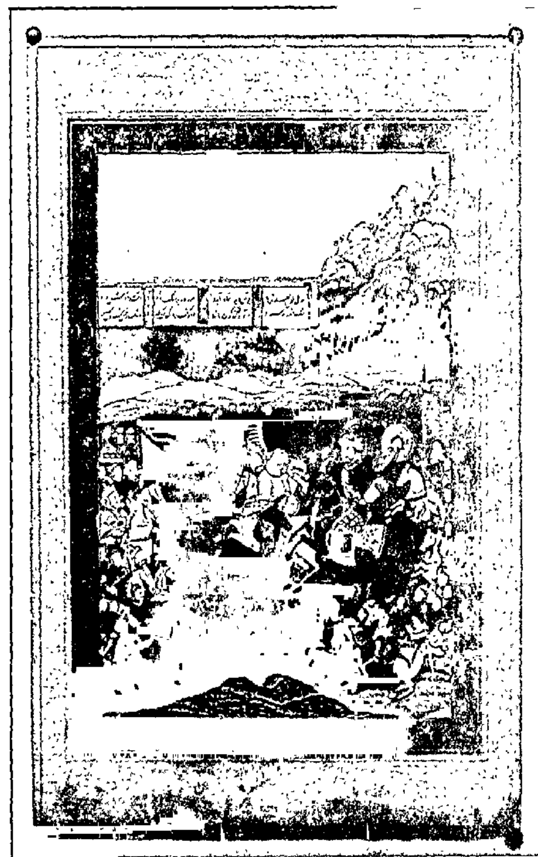
(a)



(b)

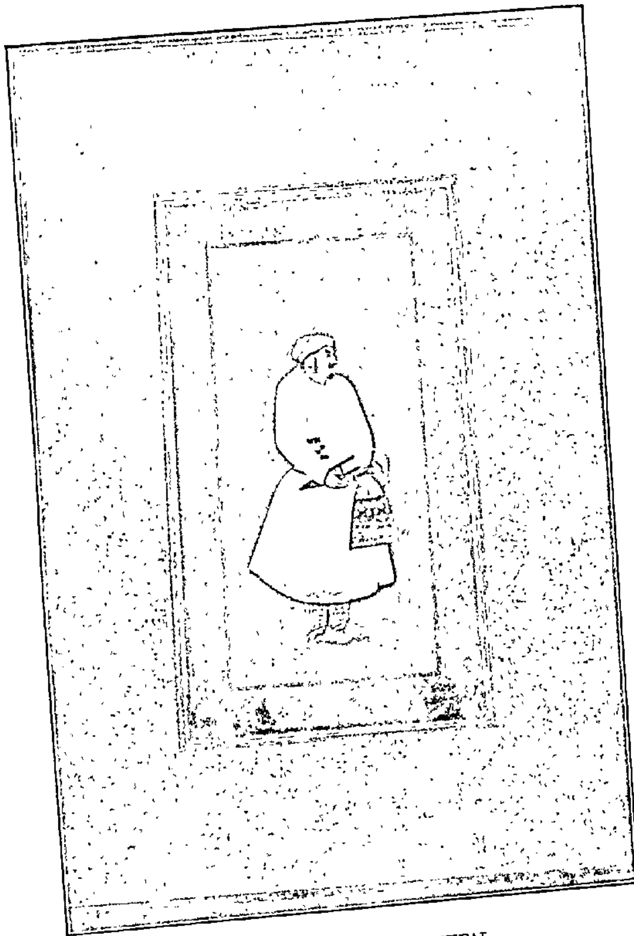


(c)



(d)

a, b, c & d. SCENES FROM THE SHAHNAMA.



a. PORTRAIT OF FARRUKHFAL.



b. AN ILLUSTRATION FROM MUKHTARNAMA.

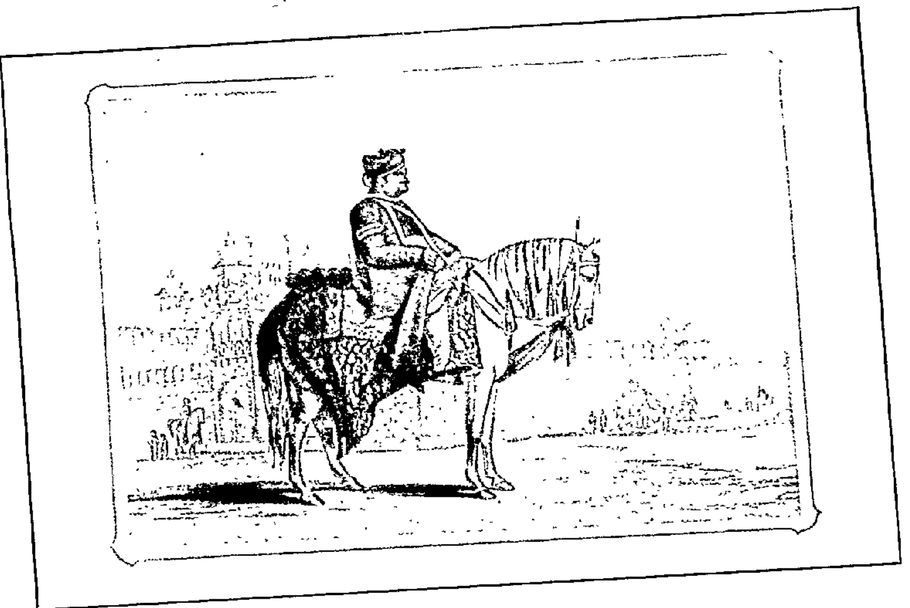


c. DOHAD, DIST: PANCH MAHALS: IMAGES OF GARUDA AND A JAIN PANDIT, SARADAT SIDHARAI.

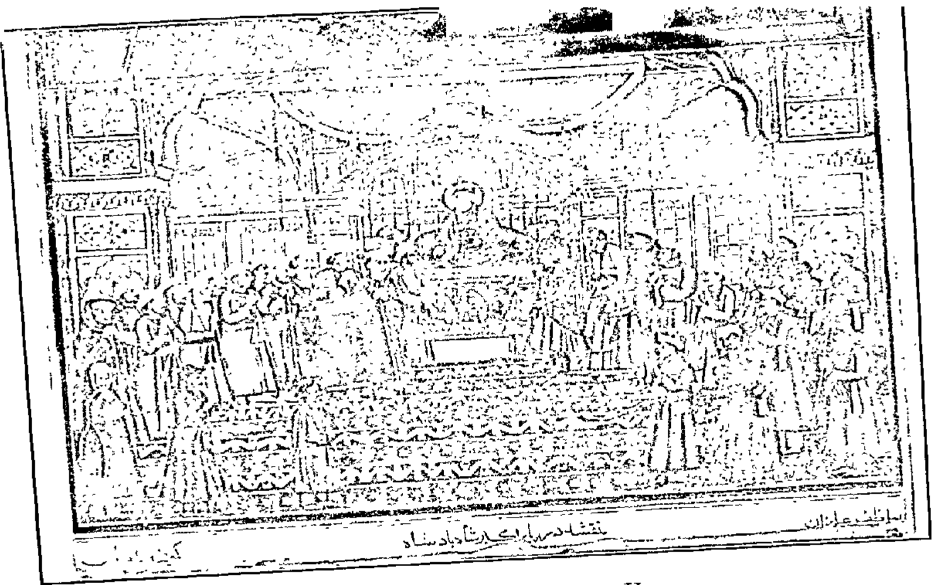


d. GOVARDHANA-DHARA KRISHNA, FROM A MUHAMMADAN CEMETERY AT ARRA, BENARES CITY.

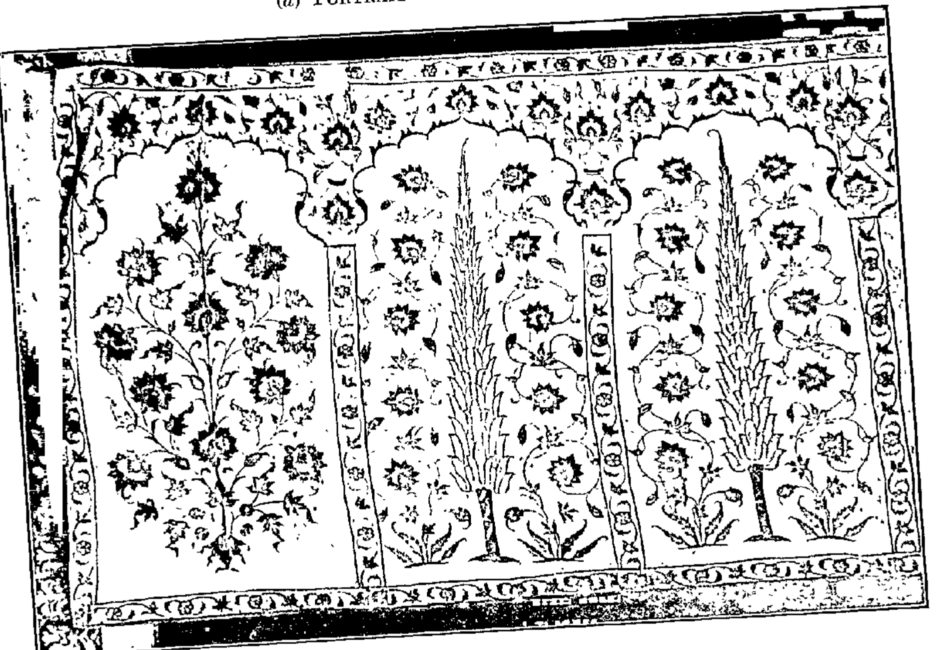
Photo-engraved & printed at the Offices of the Survey of India, Calcutta, 1929



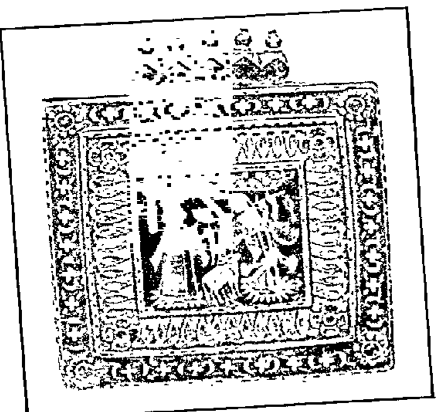
(*a*) PORTRAIT OF RAJA HINDU RAO.

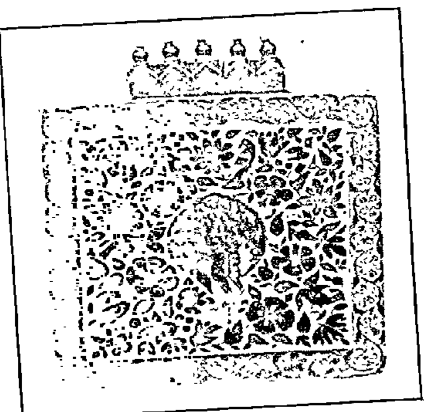


(*b*) DARBAR OF AKBAR SHAH II.



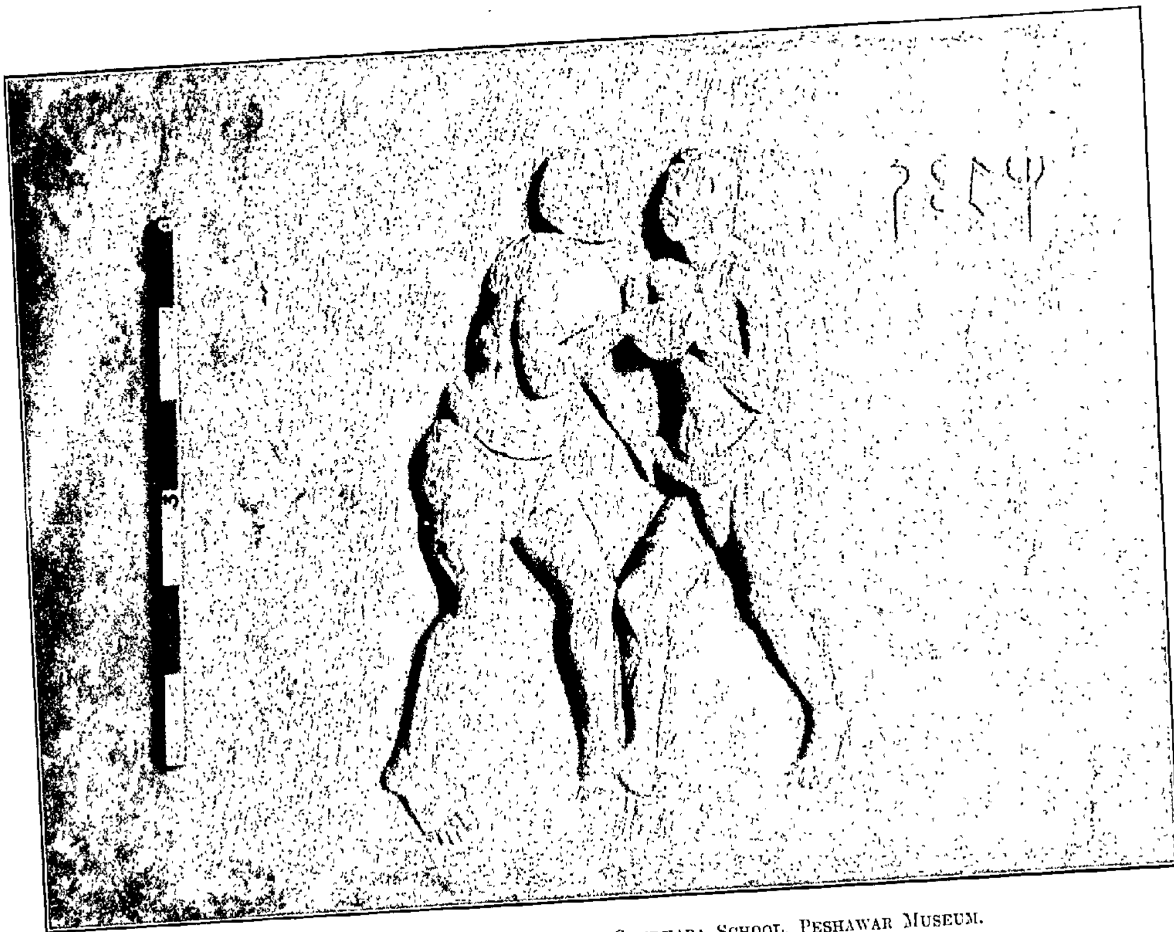
(*c*) SILK EMBROIDERED CARPET.



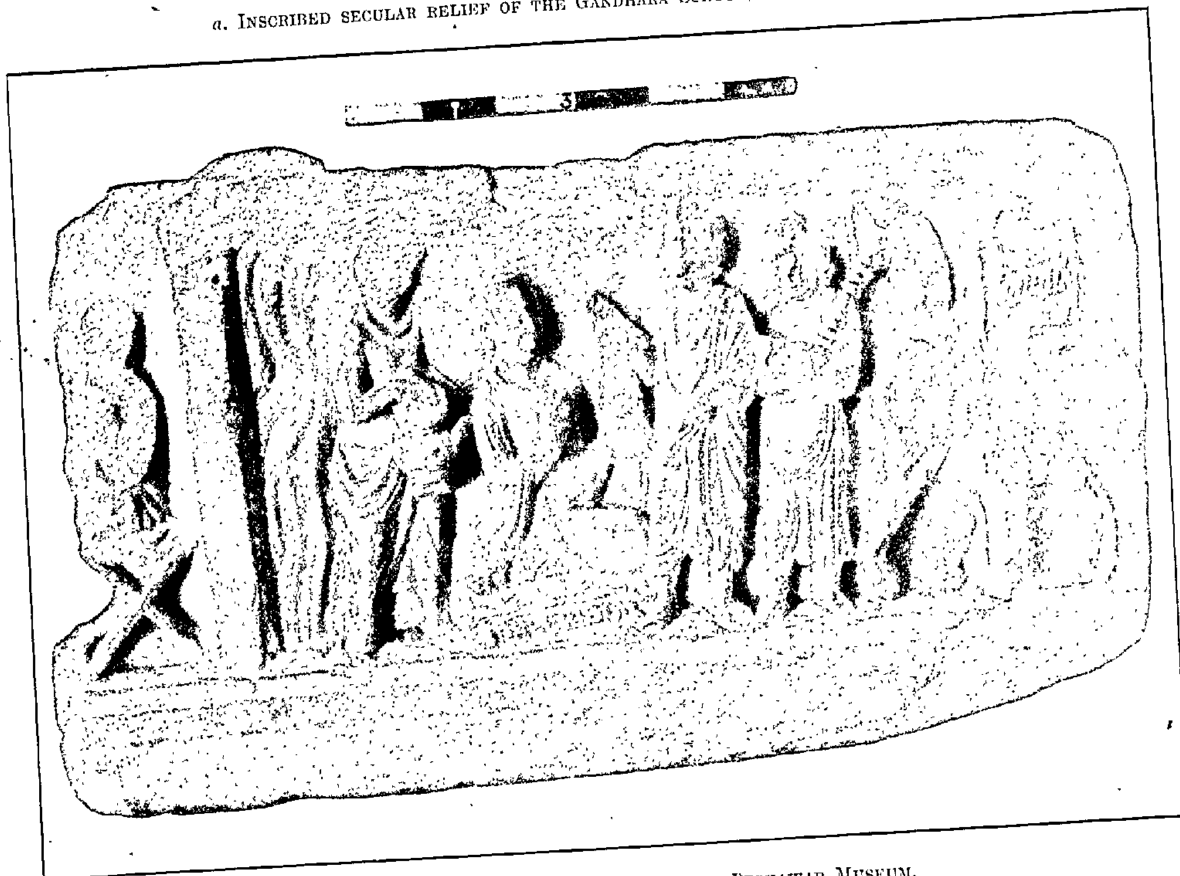


(*d*) & (*e*) GOLD ENAMELLED PENDANT, OBVERSE AND REVERSE.

Photo.-engraved & printed at the Offices of the Survey of India, Calcutta, 1929



a. INSCRIBED SECULAR RELIEF OF THE GANDHARA SCHOOL, PESHAWAR MUSEUM.



b. UNIDENTIFIED GRAECO-BUDDHIST RELIEF, PESHAWAR MUSEUM.

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